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The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★

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DETROIT

BULLETIN!

Production Cut In Refrigerators Is Set at 43.2%

Government To Allow 2 Million Units In Coming 12 Months

WASHINGTON, D. C., Sept. 30—Production of household electric refrigerators has been ordered reduced for the last five months of 1941 to a level 43.2% under average monthly output for the year ended June 30, and OPM, in making the announcement, warned that production cuts in 1942 "probably will be greater."

This order to cut refrigerator production was based on recommendations of Leon Henderson, Director of Civilian Supply, in a program which calls for production of 2,007,000 refrigerators in the 12 months beginning Aug. 1, 1941, compared with 3,670,000 units in the 12 months ended June 30, 1941.

Monthly quotas for the refrigerator industry will total 175,519 units for each of the five months August to December, 1941, inclusive.

The larger companies were subjected to the heaviest cuts, on the basis that they could better withstand them. Those making 16,000 or more refrigerators a year were cut 45%; those turning out 5,000 to 16,000 units, 37%; and those producing fewer than 5,000 units, 29%.

It was forecast that beginning in January cuts would approximate

(Concluded on Page 2, Column 5)

Locker Industry Plans Fight For More Gov't Aid

High Priority, Approval Of Locker Stamp Plan Objectives of Drive

By Jim McCallum

OMAHA, Neb.—A special "National Defense" session during which plans were announced for obtaining an improved priority rating for the locker industry and for promoting the adoption of a proposed "locker stamp" plan to be correlated with the government's existing "food stamp" plan was one of the highlights of the third annual convention of the National Frozen Food Locker Association held Sept. 23 to 25 at the Fontenelle hotel here.

An A-1 priority rating "allowing for immediate expansion of this vital industry" and passage of HR 5532 (introduced into Congress by Representative Gathings and now before the House Agriculture Committee) were listed as "immediate needs" of the locker industry by R. B. Snowden, Jr. of Memphis, Tenn., presiding chairman of the national defense session.

Repeatedly tieing up his pleas for the locker industry with a statement by Claude Wickard, Secretary of Agriculture, that "Food will win the war and write the Peace," Mr. Snowden asked the assembled locker plant operators and equipment and supplies manufacturers to subscribe to a suggested plan for raising a $10,000 "war chest" for financing the promotional and educational work

(Concluded on Page 12, Column 1)

Mining Engineer To Allot Appliances

WASHINGTON, D. C.—Jesse L. Maury, formerly head of the nonferrous metals section of the allocation section of OPACS, has been appointed chief of the Electrical Appliances and Consumers' Durable Goods branch in the new Division of Civilian Supply of OPM, it has been announced by Joseph L. Weiner, deputy director. Supervisor of industry branches in the new setup is Dr. Reavis Cox.

Mr. Maury, a Butte, Mont., mining engineer, for the past four years has been with Lehman Corp. He was with the Securities & Exchange Commission in 1935 and 1936 as a valuation engineer. He has had wide experience in managing lead, zinc, and silver mining operations in the west.

Hotpoint Adds New 7-Ft. Refrigerator

CHICAGO—A new 7-cu. ft. refrigerator, Model EBX7, has been added to the Hotpoint line, and will be available to dealers in October, reports F. B. Williams, manager of the company's refrigeration division.

Freezer of the new model is of heavy gauge steel, finished inside and out with white porcelain enamel. Horizontal design on the freezer door sets off the Hotpoint name, etched in blue crystallite. Sixteen-point cold control with semi-automatic defrosting feature, is mounted behind the freezer door. There are four ice trays, with a capacity of 80 cubes per freezing.

"Butter conditioner" outlet is provided on the back interior wall, so

(Concluded on Page 2, Column 1)

Direct Rationing of Metals Is Seen as Next OPM Move

WASHINGTON, D. C., Sept. 30—A gradual discarding of the priorities system and substitution of direct rationing of materials by government agencies was predicted in dispatches emanating from the capital today.

The rationing system, it is stated, will work this way:

After SPAB's survey of defense and civilian needs has been made, the government will take an overall look at the prospective supply and the defense needs for a basic metal and assign a certain percentage of the production of each supplier to certain defense contractors. The suppliers of these materials will get lists telling them to whom to send their metals, and how much to each company.

When the defense needs have been taken care of, the remaining available supply would be split up in the same way among civilian manufacturers.

In another OPM move today, rationing of cork to manufacturers was extended to March 31, 1942, because of continued shortages of shipping.

New Plastic Cube Tray Is Flexible

NORTH CHICAGO, Ill.—A one-piece molded plastic ice cube tray for use in electric refrigerators has been developed by Modern Products & Materials Co. here.

Plans for the use or marketing of this tray are not ready for announcement now, declares R. J. Mott, sales manager, but it is expected that the trays will be available in quantities within 6 to 8 weeks. The tray has been under development for the past 8 months.

Material used is said to be an acetate plastic, with an oil base. Tennessee Eastman Co. furnished the materials from which present models were made.

According to Mr. Mott, the tray finally developed has demonstrated that it will not crack or chip under strains caused by the freezing temperatures. During the time that the water is freezing in the cube spaces, the tray walls bulge slightly, but with no ill effects.

In fact, there is enough flexibility in the tray to permit the cubes to be "flexed out" without being loosened through the use of warm water, etc. This is one of the advantages of the tray, Mr. Mott declares.

In the amount of time consumed

(Concluded on Page 2, Column 2)

'Informal' Interpretations of The Tax on Refrigeration

Official Rulings Not Available For 60-90 Days

WASHINGTON, D. C.—The 10% excise tax on refrigerators, refrigerating apparatus, and air conditioners goes into effect Oct. 1.

This is how the law reads:

"There shall be imposed on the following articles (including in each case parts or accessories therefor sold on or in connection with the sales thereof) sold by the manufacturer, producer, or importer a tax equivalent to 10% of the price for which so sold:

"(a) REFRIGERATORS, ETC.—Refrigerators, beverage coolers, ice cream cabinets, water coolers, food and beverage display cases, food and beverage storage cabinets, ice making machines, and milk cooler cabinets, each such article having, or being primarily designed for use with, a mechanical refrigerating unit operated by electricity, gas, kerosene, or gasoline.

"(b) REFRIGERATING APPARATUS — Compressors, condensers, evaporators, expansion units, absorbers, and controls, for, or suitable for use as part of, or with, a refrigerating plant, refrigerating system, refrigerating equipment or unit, or any of the articles enumerated in subsection (a).

"(c) AIR CONDITIONERS—Self-contained air conditioning units.

"(d) COMPONENTS — Cabinets, compressors, condensers, fans, blowers, heating coils, cooling coils, filters, humidifiers, and controls, for, or suitable for use as part of, or with, any of the articles enumerated in subsection (c)."

One quick glance at the text of this section 546 of the Internal Revenue Act is enough to demonstrate that the way is left open for much interpretation of the tax law when it is applied.

However, no official statement of interpretation will be made by the Bureau of Internal Revenue for at least 60 days, and possibly not for 90 days.

In the interim period between now and such time as official or "formal" interpretations are given, the manufacturer whose products come under the refrigeration tax will have to rely on "informal" interpretations or rulings which may be obtained from Bureau of Revenue officials, and these may be subject to reversal later.

Some members of the trade have already obtained some "informal" rulings or information, and the NEWS has been fortunate enough to obtain some of this data. In reading them please remember (1) These are "informal" rulings only, and neither we nor anyone else can take responsibility for them; (2) If you interpret the tax on the basis of these rulings, keep complete records now so that you are protected in the event a later ruling is different; (3) If the following interpretations don't answer your problem, don't write us, as any further information we get will be published in the weekly issues of the NEWS. If you want to go directly to the Internal Revenue Bureau for information, the best address will be the "Miscellaneous Tax Unit" of the Bureau in Washington.

Herewith the informal interpretations:

1. The manufacturer will pay the tax, and it will be based on the "factory" which the Bureau of Internal Revenue calls the "wholesale" price. For the manufacturer who sells direct only, and who has nothing but a retail price, the local Internal Revenue office or field agent will assist him in arriving at a reasonable "wholesale" price.

2. Generally speaking, the tax will apply to all equipment **shipped** on Oct. 1 or afterwards. However, in some cases where complete payment is made before Oct. 1 and the title to the goods has passed, the manufacturer may avoid the tax liability. To be safe, the manufacturer who has interpreted the law in this manner better have an understanding with the customer on this point immediately, to provide for collecting the amount of the tax in case the formal ruling should reverse this thinking.

3. To avoid double taxation or "pyramiding" of the tax, a manufacturer of refrigerating systems or refrigerators that buys such items as compressors, condensers, evaporators, and controls, such manufacturer should request that his supplier of such items designate on all invoices that he has already paid the tax. Then the amount of such tax or taxes may be deducted when the manufacturer files his own returns.

4. When certain items not specified as taxable in the law are sold as part of the whole contract and thus as part of the refrigerator, or refrigerating system, they apparently cannot be deducted when figuring the tax. But if sold separately, they are not taxable. Example: the covered dishes in a refrigerator, or meat platters in a display case.

5. Manufacturers of controls apparently plan to start out by paying the tax on all refrigeration controls, no matter how sold, but there seems to be some opinion to the effect that thermostats and other control devices would be taxable only when included with a complete unit or a complete

(Concluded on Page 12, Column 3)

Repair Parts Vital, Nelson's Viewpoint

WASHINGTON, D. C.—New assurances of materials for maintenance and repairs have come from the Supply, Priorities, and Allocation Board, through a "policy decision" made by Vice President Wallace. Donald Nelson, SPAB executive director, is to implement the policy.

"The American economy must be kept in good running order for the post-war emergency, and repair parts should be supplied to industries in return for definite pledges against hoarding of materials and promises to follow practices of conservation, simplification, and substitution," the policy decision is summarized.

The demands of the military forces

(Concluded on Page 2, Column 1)

New Appointments To TECORD

New members of the Temporary Educational Committee of Refrigeration Distributors are announced below. These men have all promised to add their weight and influence locally to the national movement now under way to make the nation aware of the fact that refrigeration is an essential industry.

Other members of the committee were announced last week, and more will follow. These men are already at work in their own communities, and are contacting their Congressmen. Samples of the work they are doing will appear in next week's issue of AIR CONDITIONING & REFRIGERATION NEWS.

Plans for a meeting of the committee in Detroit around the middle of October are now being laid.

Distributor - Dealer Section

MELVIN M. DESSER
Baltimore, Md.

E. M. FARMER
Gould-Farmer Co., Inc., Syracuse, N. Y.

FRANK W. GREUSEL
Greusel Distributing Corp., Milwaukee, Wis.

SAMUEL H. HAYNES
Haynes Modern Appliances, Charleston, W. Va.

Supplies Jobber - Service Man Section

C. W. DENNIS
Dennis Refrigeration Supply, Sioux City, Iowa

L. P. ROTH
Refrigeration Service, Inc., Los Angeles, Calif.

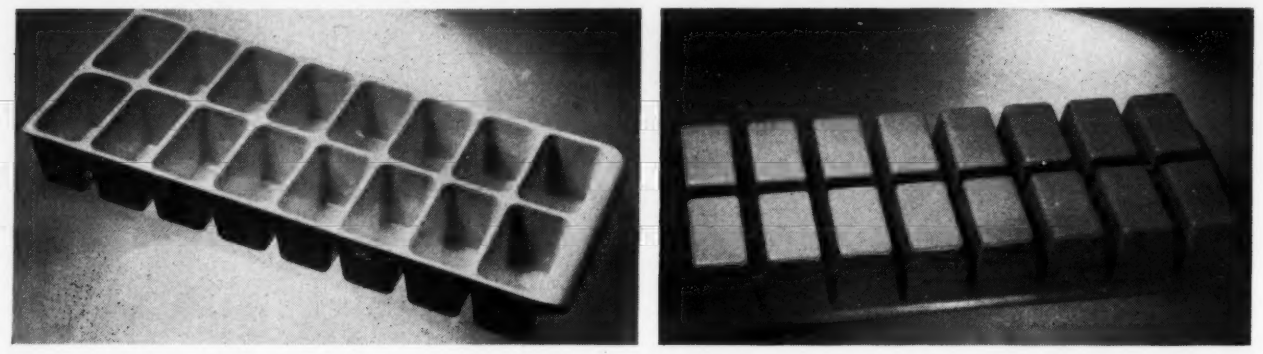
EDWARD A. SUMMER
Baton Rouge, La.

J. S. Knowlson Named Deputy Director of Priorities For OPM

WASHINGTON, D. C. — J. S. Knowlson, president and board chairman of Stewart-Warner Corp., has been appointed deputy director of priorities in charge of operations in the Office of Production Management. He succeeds Thomas B. McCabe, who is leaving the priorities division to take up new duties on the staff of Lease-Lend Administrator E. R. Stettinius, Jr.

A graduate of Cornell University in 1905 with degrees in mechanical and electrical engineering, Mr. Knowlson spent the next five years with General Electric Co. as an electrical engineer, and went on to become president of Speedway Mfg. Co. before joining Stewart-Warner.

Modern Styling Marks Plastic Ice Tray



Top and bottom views show the styling and design on the new plastic ice cube tray which has been developed by Modern Products & Materials Co.

* * *

Hotpoint Introduces New 7-Ft. Model

(Concluded from Page 1, Column 1)

that this convenience can be added, if desired. Porcelain meat pan with glass tray and sliding crisper are standard equipment in the new model. An additional feature is a dry storage compartment in the refrigerator base.

Interior cabinet arrangement provides for tall bottle storage, general storage in the center of the cabinet, and a bottom split shelf which may be exchanged with the crisper or removed entirely for storage of bulky foods.

Restrictions Now Will Help Later—Nelson

(Concluded from Page 1, Column 5)

and of lend-lease must be related to the legitimate needs of the home population, Mr. Nelson believes. During the emergency, he says, the civilian population must forget about expansion or a better standard of living, but on the other hand, existing equipment should not be allowed to deteriorate.

It is also Mr. Nelson's reported belief that regulations and restrictions now being imposed on industry should not be abandoned after the war's end, but should be tapered off gradually in order to assure a smooth transition to post-war conditions.

Plastic Ice Cube Tray Announced

(Concluded from Page 1, Column 2)

in freezing the cubes, the plastic tray has been shown to be somewhat slower than aluminum, but faster than all-rubber trays, Mr. Mott declares.

Each cube has its own "well" and the fins between these are said to promote faster freezing. It is also planned to bore holes through the center grids to see if this won't speed up the freezing process.

The tray shows no tendency at all to adhere to the shelf in the freezer compartment of refrigerators, Mr. Mott avers.

In all of the tests conducted thus far, no odor or taste has been imparted to the cubes by the tray, Mr. Mott stated.

The tray lends itself to production in any colors desired, although Mr. Mott believes the translucent type used in test models will generally prove most satisfactory.

Modern Products & Materials Co. is a firm which specializes in finished plastic products. Its most noteworthy other achievement in the plastics field is a "shade" for fluorescent lighting claimed to be far more effective than other types of shades.

Mr. Mott, who has been with the firm for several years, was a pioneer in the household electric refrigeration industry. He was with the old Coldak Corp., one of the early firms in the business, and was later with Norge, at one time handling Norge distribution in Chicago.

Field Must Give Data on Defense Portion of Sales

PD-25-C Forms Give Producer Chance To Replenish Stocks

DETROIT—While various groups and committees in the refrigeration industry strive to prove to the nation's leaders that refrigeration is essential and thus assure a steady flow of products for the trade, there is something that each supplies distributor, dealer, and contractor can do to help himself and the manufacturer from whom he buys his equipment.

He can fill out completely and accurately Form PD-25-C which is sent to him by the manufacturer.

This is the form which the manufacturer who buys for resale, the parts and supplies jobber, dealer, or contractor fills out to tell what part of his purchases each month is in direct or indirect defense work—broadly speaking, anything which is covered by an A-10 or higher priority rating or any item which he knows is going into direct or indirect defense work.

(A copy of this form is printed in the adjoining column.)

From these PD-25-C affidavits the manufacturer makes up his form PD-25 which tells the OPM what percentage of his business has been for direct or indirect defense work, and he is then given an A-10 priority rating for the amount of materials necessary to replenish that much of his stock.

As materials become harder and harder to get, PD-25-C will take on more importance. It is not beyond reason that some manufacturers may allocate supplies to their customers at some future date on the basis of the information on these PD-25-C forms.

So the manufacturers are saying to the men who sell their goods:

"Always ask the buyer where the product is going—what it's going to be used for. Ask the question on every order."

And for his own protection, the jobber, dealer, or contractor must always attempt to get some proof that the job is going into direct or indirect defense work. If the job in which the product is going has been given a preference rating, or if the buyer has a preference rating, he should ask for a copy of it. If that is lacking, an endorsement by the buyer on the purchase order or contract to the effect that the job is in the defense category can serve as proof. Any correspondence relating to the nature of the job should be kept in this special "proof of my PD-25-C statements" file.

Don't Neglect This Form!

Form PD-25C
Revised 8-15-41

(This Form May Be Reproduced Without Change)

OFFICE OF PRODUCTION MANAGEMENT
Division of Priorities

Customer's Certificate of Defense Requirements

XYZ Company
(Name of Supplier with Whom this Certificate is Filed)

(Address)

The undersigned customer hereby certifies to the Director of Priorities of the Office of Production Management and to the above-named Supplier that:

1. During the month of ....., 194.., ... per cent of the total dollar volume of sales made by the undersigned to all of its customers constituted Defense Supplies as defined below. In calculating this percentage there have not been included any sales made under an order bearing a specific preference rating which has been already used by the undersigned to obtain a delivery of materials by reextension or other application of such rating.

2. No purchase orders have been placed with the above-named Supplier during the month specified, and no purchase orders will be placed with said Supplier in succeeding months in amounts which will increase the undersigned's inventory in excess of a normal supply for any item.

3. The facts set forth above are to the best of the knowledge and belief of the undersigned true and correct.

Legal Name of Customer Executing Certificate

By: _____
Signature and Title of Authorized Individual

"Defense Supplies" means and includes any supplies sold under any of the following contracts or orders:

(a) Any contract or order for products to be delivered to or for the account of:

1. The Army or Navy of the United States, the United States Maritime Commission, the Panama Canal, the Coast and Geodetic Survey, the Coast Guard, Civil Aeronautics Authority, the National Advisory Committee on Aeronautics, the National Defense Research Committee.
2. The Government of Great Britain and the Government of any other country whose defense the President deems vital to the defense of the United States under the Act of March 11, 1941, entitled, "An Act to Promote the Defense of the United States."

(b) Any other contract or order for products which the Director of Priorities determines is to cover direct or indirect defense requirements of the United States, by specifically assigning a preference rating of A-10 or higher thereto.

(c) Any contract or order placed or offered by any person for the delivery of any material or equipment required by him to fulfill his contracts or orders on hand, which material or equipment is to enter directly or indirectly into the manufacture of the products specified in paragraphs (a) (1) and (a) (2) above.

(The foregoing Certificate constitutes a representation to the above-named Supplier and to the Director of Priorities of the Office of Production Management. Section 35A of the Criminal Code, 18 U.S.C. 80, makes it a Criminal offense to make a false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction. This certificate must be kept on file by the Supplier for inspection by representatives of the Office of Production Management for a period of at least two years.)

Artophone Gives Up Stix Appliance Dept.

ST. LOUIS—Artophone Co., Philco distributor here, has announced that it will no longer operate the radio and appliance department of Stix, Baer & Fuller, local department store, as has been the case for the past several years.

OPM Sets Refrigerator Cut at 43.2%

(Concluded from Page 1, Column 5)

50% under the base period for the large manufacturers; 40% for the medium group; and 29% for the small producers.

OPM officials declared that the curtailment was expected to release 175,000 tons of steel for production of warships, cargo vessels, tanks, and other defense items, as well as considerable quantities of aluminum, brass, chromium, copper, nickel, tin, zinc, mica, and rubber.

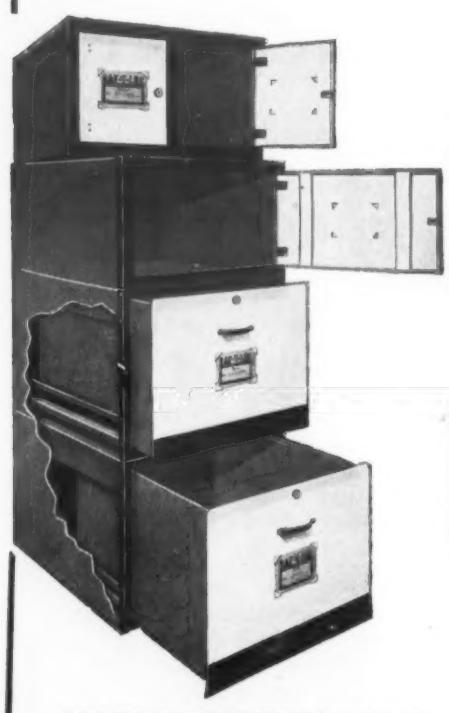
The government men said that the effects of the limitation order would be felt mainly in the cities which produce 90% of the mechanical refrigerators in this country—Detroit; Dayton, Ohio; Schenectady, N. Y.; Evansville, Ind.; Muskegon, Mich.; Mansfield, Ohio; and Greenville, Mich.

To relieve possible unemployment in these cities because of the cut, the OPM is directing its efforts towards placing skilled workers in defense jobs, training others in defense, and directing additional defense contracts to these areas.

MASTER Gets The Call—Where Serviceability Is Demanded

WITH types and sizes to meet every requirement—plus flexibility of installation, whether for new plants or for expansion, Master gives you the utmost in lockers for food storage plants.

The 3 main types are the SAF-T-LOC, "2 in 1" Convertible SAF-T-LOC and HyDroLoc. They are made in 30 different sizes. For sanitation, protection against odors, dehydration, etc., Master is the last word in locker construction.



Now—A MASTER Quick-Freeze Cabinet

For a quicker freeze, less dehydration, greater turnover, lower operating cost, this quick freeze cabinet is tops. Easily installed—low in cost. A space saver that is simple and sturdy in construction. If you want the best—ask about this New Master Quick-Freeze Cabinet.

A Real Rental Aid

12 pages, 4 colors and a self-mailer. Nothing like it has ever been published before. Well illustrated and has humorous sketches that drive home the points in favor of locker rentals. Contains facts and figures by well known authorities. Sample sent on request.

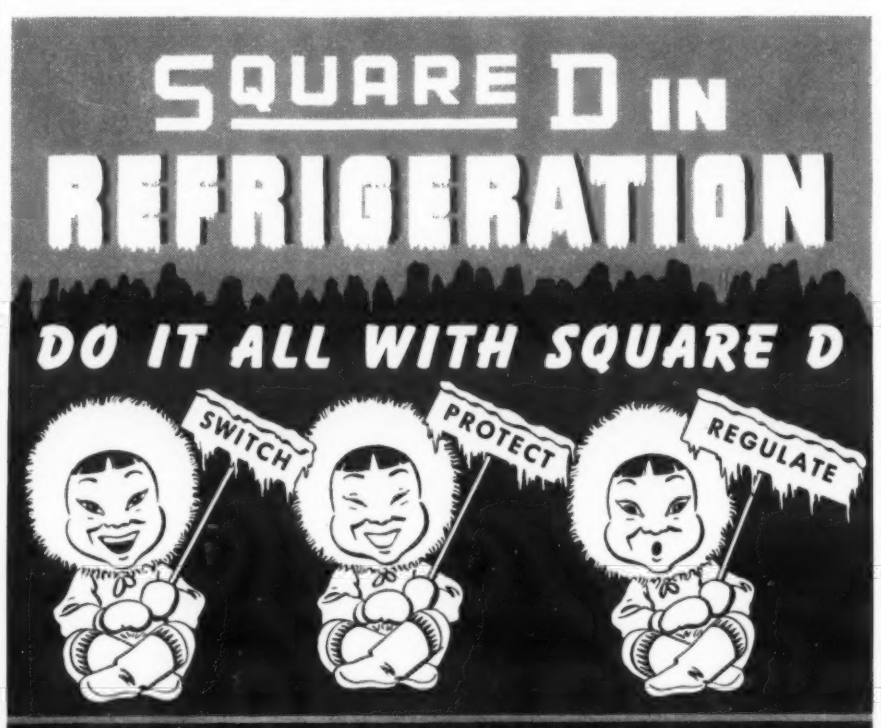
Master products are endorsed by and sold only through distributors of refrigeration and insulation.

MASTER REFRIGERATED LOCKER SYSTEMS, Inc.
121 Main St. Sioux City, Iowa

Over 225,000 Masterbuilt Lockers in Use

SQUARE D IN REFRIGERATION

DO IT ALL WITH SQUARE D



SQUARE D COMPANY • REGULATOR DIVISION • DETROIT

FREEZING WHILE DEFROSTING
FOR FREON METHYL CHLORIDE SULPHUR DIOXIDE AMMONIA, and BRINE
LICENSEES IN U.S.A.
Bush Mfg. Co. Hartford, Conn.
Kramer-Trenton Co. Trenton, N. J.
WITH RECOLD HUMID AIR LOW TEMPERATURE EVAPORATORS
PATENTED
U.S.A. No. 2,219,331
CANADA No. 394,299
NEW ZEALAND No. 82,359
OTHERS PENDING
REFRIGERATION Los Angeles,
ENGINEERING, INC. California, U.S.A.

Refrigeration In Defense To Be Stressed At Tennessee U.'s Conference on Foods

KNOXVILLE, Tenn.—Latest practice in the frozen food and locker storage fields, with special emphasis on the importance of refrigeration and frozen foods in the defense program, will highlight the University of Tennessee Food Preservation Conference scheduled for Oct. 23 to 25 here.

J. Mack Tucker, who has supervised two previous meetings of the same nature, will be in charge of this conference. Program has been arranged to provide ample opportunity for informal discussion and exchange of ideas between those engaged in frozen food and locker plant activities.

Tentative program for the 1941 conference follows:

THURSDAY, OCT. 23

1 p.m.—Registration.

2:30 p.m.—First session.

Welcome to conference, President J. D. Hoskins.

"Refrigeration in the Defense Program," D. L. Fiske.

Frozen Food Research Laboratory—A new service of the University of Tennessee Agricultural Experiment Station, G. A. Shuey.

"Experience with a 25-Locker Locker Plant," L. N. Baker.

8 p.m.—Second session.

"Frozen Food Locker Plants and the National Emergency," Wayne Carver.

Movies: (a) frozen foods; (b) news; (c) comedy.

FRIDAY, OCT. 24

8:30 a.m.—Third session.

"Product Varietal Studies," Brooks Drain.

"Economics of Locker Plant Operation," S. T. Warrington.

"Preparation of Products for Locker Plant Storage," Harry Carlton.

"Patron Acceptance of Locker Plant Services," Miss Nita Orr.

12 noon—Luncheon meeting. "Nature's Grandest Show" (movie), National Park Service.

2:30 p.m.—Fourth session.

"Selection of Refrigerant for Quick Freezing and Locker Storage Plants," C. T. Baker.

"Dehydration of Products Stored at Low Temperatures," J. C. Woodruff.

"A New Portable Quick Freezer," J. O. Tankersley.

6:30 p.m.—Dinner meeting. Joint meeting with East Tennessee section, American Society of Mechanical Engineers.

SATURDAY, OCT. 25

8 a.m.—Scenic trips to either Smoky Mountains Park, Norris Dam and Park, or Cherokee Dam will be arranged for those who request them.

2:30 p.m.—Football game, University of Tennessee vs. University of Cincinnati.

Wage Claim Against Super-Cold Denied

DALLAS, Tex.—Finding no cause for action, Judge W. H. Atwell in United States District Court here has denied a $2,054 claim for back wages under the Federal wages and hours law brought by Carl C. Cline against Super-Cold Southwest Co.

Contending that the defendant was engaged in interstate commerce and hence affected by the law, Mr. Cline claimed the money as due him for overtime worked while he was service department manager for the defendant, from August, 1939, until he severed his connections with the company.

Super-Cold contended that the wages and hours law did not apply to it because so small a part of its business was interstate; and that if it did, Mr. Cline was an executive in the firm and therefore not included in the operation of the law.

In a previous action, James C. Smith, a former employe, received $1,500 on a similar claim.

Heckert Given Task of Increasing Output Of York's Plant

YORK, Pa.—Edgar F. Heckert has been appointed special assistant to the general works manager of the York Ice Machinery Corp., advancing from his previous position as manager of the service department of the company.

His new assignment will include studies in the manufacturing division, designed to increase efficiency and production output, in view of the increasing load placed upon the company by the defense program.

Mr. Heckert is a native of York, Pa.—born here in 1886. He obtained a degree in electrical engineering at Pennsylvania State College and was subsequently an employe of the General Electric Co., engaged in electrical testing, and the Southern Utilities Corp., as construction engineer.

In 1909 he joined the York Ice Machinery Corp. (then the York Mfg. Co.) as a student installation engineer, and several years later became assistant manager of the service department. More recently he became manager of the service department, the position he held at the time of his appointment as special assistant to the works manager.

Hospital Serums Damaged When Kansas City Strike Shuts Off Refrigerators

KANSAS CITY, Mo.—Extent of the "damage" caused by last week's four-hour strike "blackout" of Kansas City Power & Light Co. included serums kept in mechanical refrigerators in the city's hospitals. These serums became warm because of lack of refrigeration, which is essential in keeping them in proper condition for use.

No estimates were available as to possible damage to foodstuffs in warehouses and markets as a result of the power shutdown.

Cooling Aids Army's Range Finder Tests

RARITAN, N. J.—Air conditioning is making it possible to test and calibrate long-range artillery and anti-aircraft range finders, telescopes, and other types of optical instruments under actual combat conditions in a specially constructed calibration room at the government's Raritan Arsenal.

Constant temperature and humidity conditions necessary to accurately calibrate delicate mechanisms are maintained in the calibration room by a 10½-ton Carrier air conditioning system.

A total of 3,600 c.f.m. of air is introduced into the calibration room, in which temperature is never allowed to vary more than 2° from 75° F. Humidity is maintained at 50% at all times.

Most of the instruments tested at the Raritan Arsenal laboratory are used in long-range artillery and anti-aircraft work and absolute uniformity of test conditions makes it possible to apply necessary correction factors.

Alabama Supreme Court Now Sits In Comfort

BIRMINGHAM, Ala.—Alabama's first state building, the supreme court building in Montgomery, is now air conditioned, an 80-ton Airtemp system having recently been installed by Bethune Electric Co. of Birmingham. It was designed by the C. P. Lichty Engineering Co., of Birmingham and includes a Trane evaporative condenser and Johnson Service controls.

OPM Moves Field Office In New York City

NEW YORK CITY—Local office of the Priorities Field Service of the Office of Production Management—serving northern New Jersey, Fairfield County, Conn., and New York State—has been moved from 33 Liberty St. to 25 Broad St.

Booklet doubly valuable today . . .

AS MUCH "Freon-12" refrigerant is being made today as ever. Defense needs are taking a big percentage of it, however, and production cannot be greatly expanded at this time because of the limited supply of one of the essential raw materials.

But you can relieve this situation, help the entire refrigeration industry, and at the same time build up customer acceptance of maintenance service that will carry over to normal times.

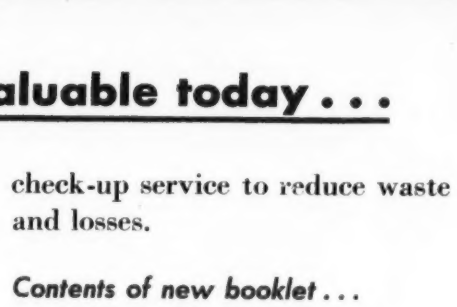
A great conservation of "Freon-12" can be made in the servicing of equipment and in handling. If present waste and losses of "Freon-12" are eliminated, the saving will compensate for existing shortages—make "Freon-12" available for new equipment that in turn means more business for you.

That's why this new booklet is doubly valuable today. It has been prepared as a helpful guide to assist you in making the most of your new opportunity—a regular check-up service to reduce waste and losses.

Contents of new booklet . . .

"Service Instructions for 'Freon-12' Refrigerant" serves a timely purpose as a check list for practices that will reduce waste and losses. Detailed procedures are given for transferring this refrigerant and detecting leaks. Included are suggestions for meeting current and seasonal servicing opportunities.

SELL CHECK-UP SERVICE NOW WHEN PATIENT IS WORRIED



▶ **SEND FOR BOOKLET NOW.** Follow the lead of the Chinese Doctor—who serves by keeping patients well. This service manual will help you keep your patients well.

CHECK LIST
FOR CONSERVATION OF "FREON"*
Do not overcharge system.
Weigh a sufficient amount of "Freon" for efficient operation.
Test system for tightness.
Use dry CO_2 or nitrogen rather than "Freon."
Evacuate shipping cylinders completely.
Condense the vapor and salvage the refrigerant.
Do not purge "Freon" into the air.
Pump the "Freon" into the receiver or into a clean, dry cylinder for reuse.
Look for accumulations of oil which have leaked from the systems. They may indicate the presence of a leak.
Use a Halide lamp or torch to locate leaks.
It gives instantaneous reaction to even minute leaks.
Check systems at these points:
Gaskets on the crankcase cylinder
Crankshaft bearing housing
Cylinder head
Stuffing box or shaft seal
Valve stems and pads
All connections (threaded, flared, welded, brazed or soldered)
Control devices
Oil separators
Compressor
Condenser
Evaporator
Auxiliary control apparatus
All castings and tubings
*"Freon" is Kinetic's registered trade-mark for its fluorine refrigerants.
KINETIC
FREON
REG. U. S. PAT. OFF.
safe refrigerants

KINETIC CHEMICALS, INC., TENTH & MARKET STREETS, WILMINGTON, DELAWARE

Frozen Foods Go 'House-To-House'

House-to-house distribution of frozen foods is the purpose of this refrigerated truck, developed for Deepfreeze by Henney Motor Co., Freeport, Ill. Gasoline compressor units provide refrigeration.

* * *

New Refrigerated Truck Designed For Frozen Food Deliveries

FREEPORT, Ill. — A refrigerated motor truck, designed by Deepfreeze especially for the delivery of frozen food products, has been developed by Henney Motor Co., local automotive equipment manufacturer.

Body of the truck is comprised of two streamlined sections, mounted one on each side of the chassis. Each section contains four Deepfreeze food compartments. A catwalk between these sections and a folding step hinged at the rear provide easy accessability.

Two gasoline compressor units, one mounted under each battery of cold cylinders, furnish sub-zero temperatures.

The body is built on several different standard truck chassis in two sizes and wheelbases. A 77-cu. ft. capacity unit is designed for the cab-over engine chassis, while a 36-cu. ft. payload space is provided on a short wheelbase.

Navy's 'Mosquito Fleet' Using Mills Refrigeration

NEW ORLEANS—Boats in the Navy's "mosquito fleet" operating out of New Orleans have been equipped with Mills refrigeration equipment, reports F. E. Jernberg, sales manager of Mills Novelty Co.'s commercial refrigeration division.

These little chasers often stay out for three or four days at a time, Mr. Jernberg says, and refrigeration is essential in keeping their food supplies in proper condition.

Louisiana Commercial Firm In New Location

MONROE, La. — United Electric Service, Inc., distributor for Taylor and Tyler commercial refrigerators, Delco products, Servel refrigerators, Bendix, and Stromberg-Carlson radios, has moved to a new location, 907 E. Louisville Ave.

Servel, Inc. Joins ACRMA

WASHINGTON, D. C.—Servel, Inc., has been elected to membership in the Air Conditioning & Refrigerating Machinery Association, Inc., reports William B. Henderson, ACRMA executive vice president.

★ ★ ★ ★ ★ ★ ★ ★ ★

MILLS MIGHTY REFRIGERATION

Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★ ★ ★ ★ ★ ★ ★ ★ ★

South African Curb On Imports Eased

WASHINGTON, D. C.—Import restrictions announced by the Union of South Africa as effective Sept. 15 have been eased to allow any order or shipment contracted for as of Sept. 15 to enter that country, regardless of whether or not it is on the list of restricted or prohibited items.

As reported in last week's NEWS, the order requires an import license in the case of refrigerators, refrigeration equipment, and appliances, while some products, including vacuum cleaners and phonographs, have been placed on the "luxury list" and are barred altogether.

The restrictions were applied without advance warning, and originally covered all goods which were not actually in transit to South Africa, regardless of whether they had been ordered beforehand. This caused exporters and steamship lines much confusion because of the delays which would arise in obtaining licenses for products already ordered, but which had not left the factory when the ban went into effect.

The British Purchasing Commission, however, said that the act would be administered to make valid any order placed by Sept. 15, even if it includes articles that are to be refused import licensing hereafter, and regardless of the shipping date. According to this, any exporter of refrigerators or appliances who had established a letter of credit up to Sept. 15 covering these shipments will not be required to have import permits, even if the shipments are dispatched some weeks hence.

Defense Sub-Committees For Industry Revised

WASHINGTON, D. C.—Revised sub-committee lists of the Industrial Advisory Committee of the Air Conditioning and Refrigeration Industry are as follows:

Committee 1 on Industrial Inventory Control and Analysis: J. A. Bentley, Carrier Corp.; P. Y. Danley, Westinghouse Electric & Mfg. Co.; Thomas Evans, Merchant & Evans; G. E. Graff, Ranco, Inc.; E. A. Kleinschmidt, York Ice Machinery Corp.; Raymond Starr, Koch Refrigerator Corp.; J. A. Strachan, Kerotest Mfg. Co.; and R. O. White, Day & Night Mfg. Co.

Committee 2 on Conservation, Production, and Product Simplification: D. K. Banker, Frigidaire Div., General Motors Corp.; J. D. Harris, Warren Co.; E. E. Harwood, White-Rodgers Electric Co.; S. E. Lauer, York Ice Machinery Corp.; J. P. Rainbault, Air Conditioning & Commercial Refrigeration Dept., General Electric Co.; E. R. Wolfert, Westinghouse Electric & Mfg. Co.; R. G. Wyld, Airtemp Div., Chrysler Corp.; and F. R. Zumbro, Frick Co.

Committee 3 on Government Contacts, Proposed Purchases, Procedure Education: L. T. Brockbank, Air Conditioning Dept., General Electric Co.; J. M. Fernald, Baker Ice Machine Co.; John W. Hart, McCray Refrigerator Co.; M. G. Munce, York Ice Machinery Corp.; R. S. Read, Portable Elevator Mfg. Co.; B. J. Scholl, Brunner Mfg. Co.; G. E. Wallis, Creamery Package Mfg. Co.; and P. B. Zimmerman, Airtemp Div., Chrysler Corp.

Committee 4 on Ratings, Priorities, Allocations: W. C. Allen, Modern Equipment Corp.; R. H. Pearse, Trane Co.; J. A. Bentley, Carrier Corp.; F. H. Faust, Air Conditioning Dept., General Electric Co.; C. V. Hill, Jr., C. V. Hill & Co.; M. W. Knight, Peerless of America, Inc.; L. C. Love, The Ebco Mfg. Co.; P. A. McKittrick, Parks-Cramer Co.; A. B. Schellenberg, Alco Valve Co.

Committee 5 on Adaptation—Plant Machinery to Defense Work: J. W. Hatch, Bush Mfg. Co.; H. E. and/or R. W. Kritzer, Peerless of America, Inc.; M. G. Munce, York Ice Machinery Corp.; Carl Ostling, Carrier Corp.; T. S. Pendergast, Universal Cooler Corp.; Jerry Tyler, Tyler Fixture Corp.; A. W. Wennerstrom, General Electric Co.; and John Wyllie, Jr., Temprite Products Corp.

Committee 6 on Study of Federal Purchases Related to this Industry: W. H. Aubrey, Frick Co.; Frank Gleason, Copeland Refrigeration Corp.; W. D. Keefe, Fedders Mfg. Co.; M. M. Lawlor, Carbondale Div., Worthington Pump & Machinery Corp.; E. T. Murphy, Carrier Corp.; A. B. Newton, Minneapolis-Honeywell Co.; W. R. Ost, The Walworth Co.; and H. R. Sewell, B. F. Sturtevant Co.

Committee 7 on Analysis of Government Specifications: J. H. Ashbaugh, Westinghouse Electric & Mfg. Co.; Roger Dowling, York Ice Machinery Corp.; William Fogel, Fogel Refrigerator Co.; W. D. Jordan, Liquid Carbonic Corp.; F. D. Kirk, Vilter Mfg. Co.; J. K. Knighton, Servel, Inc.; R. M. McTurk, Peerless of America, Inc.; E. A. Vallee, Automatic Products Co.; M. B. Williston, Acme Industries, Inc.; and A. Knapp, Kelvinator Div., Nash-Kelvinator.

Committee 8 on Miscellaneous Reference: J. A. Bentley, Carrier Corp.; E. G. Biechler, Frigidaire Div., General Motors Sales Corp.; F. H. Faust, Air Conditioning Dept., General Electric Co.; C. J. Hall, American Radiator Corp.; F. J. Hood (Franklin Wedge), Ansul Chemical Co.; G. S. Jones, Servel, Inc.; Robert LeBaron, Virginia Smelting Co.; M. G. Munce, York Ice Machinery Corp.; Frank R. Pierce, Kelvinator Div., Nash-Kelvinator Corp.; F. K. Smith, Tecumseh Products Co.; R. J. Thompson, Kinetic Chemical Co.; and C. E. Wilson, Worthington Pump & Machinery Corp.

New 'Cold Counter' For Restaurants

One of the new Everlast "Sno-Plate" refrigerated counters is shown here in use in a restaurant in the New York metropolitan area.

* * *

New 'Sno-Plate' Display Counter Puts Foods in a 'Well of Cold'

NEW YORK CITY—A refrigerated counter or window fixture designed for display of perishable foods in restaurants, especially those of the serve-self variety, has been patented and placed in production by Joseph Scilken of Everlast Corp. Several installations already have been made in the metropolitan area, the company claims.

Trade name of this new product is "Everlast Sno-Plate."

This fixture consists of a series of refrigerating plates arranged in such a way as to provide refrigeration on all four sides and bottom of a tray opening in which a tray of food may be displayed.

Each of the cooling plates is comprised of a pair of flat sheets or walls separated by elements to form ducts or conduits for the passage of vaporized refrigerant. These plates may be of any desired size.

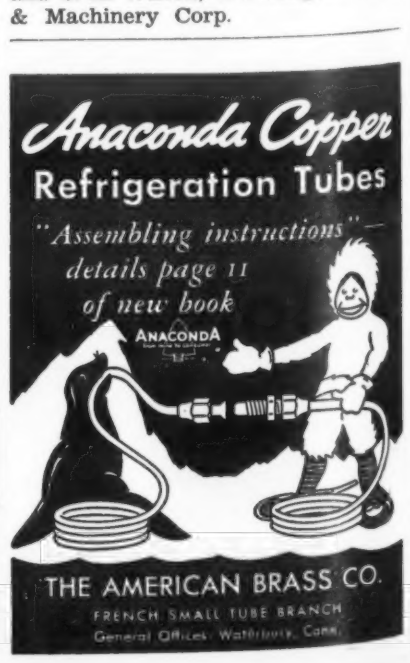
A number of them may be arranged in a plane to form an upper display surface. In such a case, these units are placed edge to edge and are connected in that position by welding, brackets, or some other suitable means. Each plate unit has an inlet and outlet for the passage of refrigerant, and the units are connected together by hairpin-shaped sections of tubing which run underneath the tray openings and provide refrigeration for the tray bottoms.

If desired, the flat display surface thus formed can be supported by other refrigerated plates on all four sides, thus providing a refrigerated area beneath the display surface for storage of additional perishable food. An opening with or without a door may be provided in any of the side walls for access to the interior.

All of the refrigerated plate sections comprising such a complete unit are connected to each other by means of short sections of tubing to form a complete refrigeration circuit.

The plate sections which form the top surface of the display unit may be fitted together in any desired way to provide refrigeration for any number of food trays, regardless of size or shape. Sections with special funnel-shaped openings can be provided for the cooling of grapefruit, melons, or similar spherical foods.

Refrigeration COPPER TUBING--
No bare hands touch Superior Copper Tubing over the draw benches through the coiler and the chemical bath, through the annealing furnace, and to assure its absolute cleanliness it is mechanically wrapped with moisture proof paper. There is no better tubing for refrigeration than Superior.
MECHANICALLY WRAPPED
PENN BRASS & COPPER CO., INC.
POWELL AVE., ERIE, PENNA.



Do You Know These Fundamentals of Appliance Advertising & Merchandising?

Just published by Business News Publishing Co. (publisher of Air Conditioning & Refrigeration News) is a new book "Appliance Advertising & Merchandising." (Price: $2.00.) Written by R. E. Mangan, who for the last 10 years has been advertising manager and merchandising expert for one of the largest appliance distributing firms on the west coast, the book is full of down-to-earth information on making advertising and promotion methods pay out.

Parts of "Appliance Advertising & Merchandising"—such as that below—will be published in the News from time to time, to give readers the benefit of some of Mr. Mangan's stimulating thinking, but primarily to create a desire on the part of the subscriber to get and read this very helpful book.

BY R. E. MANGAN

(From Chapter 5 "How to Make Your Store Work With Your Advertising—Location . . . Identification Signs . . . Window Displays.")

TIPS ON BUYING NEON SIGNS

You can get badly stung if you aren't careful when you buy neon signs. Here are some tips that may prove helpful to you.

Don't deal with a cut-price outfit. All they do is cheapen the sign—and there are a dozen ways to do it—which means costly upkeep later. Pay the slightly higher price asked by a substantial neon sign firm.

Make certain that you buy a sign with a porcelain background for the letters, or with letters painted on the metal behind the tubing. This is important, because it makes your sign effective in the daytime. The porcelain letters cost more, but are preferable. For they can be easily washed, thus eliminating painting expense at regular intervals.

Be sure to specify that the transformers be the best available. You can spend many dollars replacing poor transformers in signs bought at a slight saving.

Make certain that the terminals are protected against the weather. This will prevent your sign from being like the half-lit cripples you see on store fronts after every rain.

If you get a good sign in the first place, there is no need for you to sign up on one of the expensive monthly neon service contracts that practically all neon companies try to sell. The little service required on a good sign will cost but a fraction of the cost of a service contract. So save the money.

Another type of sign, the neon or painted window sign, offers an additional opportunity for store and product identification. These are inside neon signs, or signs painted as valences across the top of the window. Use them if you can. Remember, the more identification you give your store the better your sales will be.

WHAT SHOULD YOUR SIGN SAY?

Your signs have two things to tell the public: (1) who *you* are, and (2) *what* you sell. Consider a moment which of these two things packs the strongest selling wallop, and you'll agree that the second is more important. Your firm name is less important than what you sell.

It's human nature to want one's own name to be prominent. But the cold fact is that almost any firm name is relatively unimportant compared to the importance of what the firm sells. Not unless you have been in business for many years does your firm name mean much to the general public.

Certainly, fair, honest, and dependable business methods will build up a valuable store of goodwill among your customers, and probably among their friends. But by the very nature of the appliance business you can't become a widely known business institution whose name is as important as the products it sells. People don't buy appliances often enough for you to become generally known to the public.

Therefore, the appliance dealers who insist on plastering their names all over the front of their stores are off on the wrong foot. Most good merchants agree that the primary job of their outside signs is to tell what they sell.

This is not to say that you shouldn't give some prominence to your firm name. You should identify your store as your business, of course. But your name should be definitely secondary. Tell them what you sell first. That's what brings in the prospects.

Specialty Selling in the 'Emergency'

Can Dollar Volume Increase Now? Yes, If You Go After Serivce

By William Rados, Sales Promotion Manager, Refrigeration Division, The Crosley Corp.

Editor's Note: This is the second article of a series of five, in which Mr. Rados, a veteran sales educator and analyst, discusses problems of appliance selling under today's unusual conditions. The author formerly was manager of the Kelvinator National Salesmen's Institute.

What will you do if you cannot get as many refrigerators as you would like?

The man who has the true specialty salesman's heart will conquer this problem as he has many others before him. Very likely he has put several years—to say the least—building up contacts, experience, customers. He's not going to throw that away merely because there may be a temporary shortage of appliances. Particularly since the emergency won't last forever.

NEEDED—NEW VOLUME

His obvious move is to sell what he can get with minimum expense and maximum profit. But if he needs additional volume, he must see what else he can add. When he studies this situation, he sees that by every token there are two brand-new lines of volume he can get.

One of these is service—not merely the minimum business that people bring in, but the big volume possible by going out after it aggressively. The possibilities of developing a fat service business are endless. There are many millions of refrigerators from five to 10 years old, and practically every one needs periodic attention if they are to be kept up.

Likewise the majority of homes have a total of 10 to 15 major and minor appliances, many of which need attention. Just canvass a couple of dozen houses and see for yourself. It's there—waiting for hard-hitting salesmanship, and best of all, it can be sold at a profit.

SMART DEALERS READY

Leading dealers throughout the country are already looking forward to this situation: radio newspaper advertising, and window displays playing up the personal and PATRIOTIC benefits of keeping old appliances going strong as well as buying new refrigerators. Handbills and other methods will offer "free inspection," which incidently, will often lead to sales of new appliances.

Promotions of various sorts will be run to uncover service prospects, and gain entrance into the home to examine the existing appliance service needs. Salesmen will learn how to survey a prospect's needs for service, create the sale, and close it profitably. At the same time they will know how to use a service sale to lead to a sale of an appliance.

Dealers will expand service facilities and organization so as to turn out satisfactory work at a profit.

Along with this, many dealers will develop the practice of buying old jobs in order to recondition them for resale. Dealers in this field will advertise "cash for your old refrigerator," display old refrigerators, dress up the used refrigerator department, appoint special salesmen to sell used refrigerators, and maintain a constant sales drive to get, and to sell, used refrigerators. Salesmen will open up a new market, find prospects, and close them.

NOT MONEY, BUT WORK

To add a profitable volume from these sources is not difficult. The main thing required is ambition, determination, and hard work. Not much capital will be needed, but lots of hard work will. Primarily the problem is one of organization—good service men, not clucks—good salesmen, a sound merchandising plan, and a good sales management head.

The business lies there waiting to be scooped in. And when refrigeration gets back to normal times again, salesmen and dealers who have built up this side of their business will have a tremendous list of customers for increased new appliance sales.

New Dealer in Butler, Pa.

BUTLER, Pa.—A new major appliance department handling all home appliances and packaged air conditioning equipment has been opened by Offutt's department store here, with Thomas Parks in charge.

No.8 OF A SERIES OF ADVERTISEMENTS DESIGNED TO HELP YOU SELL REFRIGERATORS FASTER

KNOW YOUR FOOD STORAGE ZONES!

It's easy "sale-ing" when you sell the economy of zone refrigeration...

CARRY the advantages of each zone on the tip of your tongue. And you can be quick in convincing housewives on the economy of the newer refrigerators. Tell her quickly about the sub-zero zone for meats and frozen foods . . . the cold zone for milk and butter . . . the moist-cold compartment for fruits and vegetables. This quickness will help you close sales.

Be just as quick to point out the advantages of a Du Pont DULUX finish. If there's anything a housewife wants, it's a sparkling finish that *stays* white with a minimum of care. And that's what she gets in Du Pont DULUX.

DULUX has *every* quality women want . . . sparkling whiteness . . . ease of cleaning . . . resistance to chipping, cracking, food and grease stains. What woman's eyes won't brighten at a finish which lightens her housework!

Women *know* DULUX offers extra quality because it's made by Du Pont. It is so popular that today a majority of the refrigerators have a DULUX finish. Point out the DULUX finish in every sales talk. It's the finish your prospects *want!* E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.

MAKES SELLING EASIER—SEND FOR FREE BOOK!

▶ This book is helping many dealers to more profits. Write for your copy of "How DULUX Has Helped in the Sale of More Than Nine Million Refrigerators." Send to Du Pont, Room 7156-O, Du Pont Building, Wilmington, Del.

DU PONT REG. U.S. PAT. OFF. DULUX REG. U.S. PAT. OFF. FINISH ON EXTERIOR

DULUX REG. U. S. PAT. OFF. DU PONT REG. U.S. PAT. OFF.

THE MODERN FINISH FOR MODERN LIVING...*It saves work*

Baltimore Dealership Becomes 'Home-Owner'

BALTIMORE — Shepherd Electric Co., Inc. here has purchased the building at 13 East Lombard St., in which it has carried on business for the past five years. C. C. Vogel is president of the firm; Robert L. Wilson, vice president; and Harvey H. Wilson, secretary treasurer. The company recently made the largest order in its history for refrigeration parts.

New Crosley Distributor In Tampa, Fla.

TAMPA, Fla.—Major Appliances, Inc., 2414 South Lisbon Ave., has been granted a franchise as distributor for Crosley Corp. in this area.

Raleigh Area Sales Top 1,500 Units in July

RALEIGH, N. C.—July sales of household refrigerators in the territory of Carolina Power & Light Co. totaled 1,542 units, according to figures compiled by the utility from dealer reports.

Range sales stood at 437 units for the month; 146 water heaters were sold.

In tabular form, July major appliance sales in the area stacked up like this:

Appliance	Unit Sales
Refrigerators	1,542
Ranges	437
Water Heaters	146
Radios	2,477
Vacuum Cleaners	233
Clothes Washers	653
Dishwashers	3
Air Conditioning Units	6

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Refrigeration Is Essential To America's Health And Efficiency

Substitute Materials Standardization, and Simplification

PROGRESSIVELY mounting appetite for metals of the hungry armament producing monster seems likely to cause repercussions in the electrical appliance industry even more far-reaching than those present-day phenomena of production cuts, upped taxes, and limitation of instalment sales.

Washington informants tell us that the next government moves will be to insist upon:

(1) Standardization and reduction of the number of models.

(2) Simplification of design.

(3) Radical substitution of materials for now-used metals.

All three, while working undeniable hardships on manufacturers, may have interesting results that can be cashed in on later. Let's consider these in turn.

STANDARDIZATION HAS SOME DESIRABLE POINTS

Standardization means that all manufacturers will be forced to turn out only a specified number of models of specified sizes and equipment. For example, it may be decided that only three sizes of refrigerators be produced. One hears talk of limiting production to 4, 6, and 8-cu. ft. models.

This is a move that many dealers —particularly the smaller ones—have long been requesting. And, if types of equipment and accessories are limited and prescribed, the big dealer with "acres" of showroom space will no longer have his advantage. Nor will the customer tend so much to "shopping around."

In short, *salesmanship* will determine who gets the orders, rather than customer's whims and caprices, or sheer power of display.

Simplification will have results not so apparent to the dealer or the customer. This move will have more to do with parts—the internal mechanism—than with outward appearance or features.

This is something which will be of great aid to the manufacturer of parts, and something which should early result in mass savings to the industry.

DESIGNERS STRIVE TO BE DISTINCTIVE

As matters stand now, the engineering staffs of the complete unit manufacturers each are likely to demand that the component parts which are built by specialists in that field be especially designed. In most cases, it is claimed, standard parts could do the job for all manufacturers.

One has great sympathy for the various engineering staffs, each of which is straining to gain an edge on competition by designing a distinctive system. Such varying designs, however, defeat the purpose of mass production, and result in necessarily higher costs.

THE PUBLIC SHOULD BE TOLERANT OF PERFORMANCE

As for substitute materials, herein lies the great adventure. Naturally the manufacturer hesitates to foist some untried material on the public. Here is a situation, however, where the public must share some of the costs of pioneering—instead of the longsuffering stockholders.

If strange materials are tried in electrical appliances—and these materials do not result in altogether efficient operation—the public is expected to be tolerant, for it should be acquainted with the reasons for substitution.

However, the bright young men in Washington are currently sending chills down the backs of manufacturers with their blithe suggestions for substitute materials. Few of them realize, of course, the enormous difficulties involved in retooling for new materials, or how each substitution throws the whole system out of balance.

THESE MATERIALS ARE FREELY AVAILABLE AS SUBSTITUTES

Possibilities for substitution include:

(1) Plywood
(2) Plastics
(3) Glass
(4) Ceramics
(5) Concrete

The idea of pouring concrete refrigerators is fantastic, of course, but it has been seriously suggested in Washington! Concrete bases for commercial condensing units might not be far beyond the bounds of sanity, but the idea of trucking around concrete refrigerators deserves mention only as an example of the lengths to which some imaginative minds are going.

Plywood, however, is a different story. It's use in washing machines, household and commercial refrigerators is a distinct possibility. Employment of plastic parts will increase tremendously. Plastic ice trays now appear to be feasible. The all-plastic cabinet is just around the corner (even though shortages in basic plastic materials are noted).

Glass, too, will play a larger role. Glass shelves are already "wanted" equipment. Glass accessories, parts, and even cabinets are proposed.

All these substitutions, of course, will not take place overnight. And they will be expensive. Furthermore, if Mr. Henderson insists on setting refrigerator prices, they may never come about. In which case, you may look for a gradual obliteration of the electrical appliance industry during the war.

ARTIFICIAL LIMITATIONS WILL HANDICAP PROGRESS

The industry's first job is to plead for its just share of the metals left over from the armament program. Its second is to ask that individual initiative and private enterprise be allowed to take their course in the industry. If the latter be allowed (a vain hope, some say) the industry may yet work itself out of the tight hole in which the war has put it.

But, if it is to survive through the war, the government must not be allowed to establish production quotas, or set prices too low to permit experimentation, substitution, or new developments.

'LET US WORK OUT OUR OWN SALVATION'

Manufacturers, as we have repeatedly pointed out, are practically helpless in the face of the emergency. They simply don't represent enough votes. The industry's chief hope, politically, rests in its dealers, distributors, service men, and labor unions.

These are the people who must bring pressure to bear on SPAB, through Congress, not to impose artificial restrictions on the industry. "Let us work out our own salvation in our own way" should be the cry heard from the organized voice of the industry.

They'll Do It Every Time . . . . . By Jimmy Hatlo

YEP. I'VE FIGURED IT ALL OUT TO THE LAST PENNY, HONEY. NEXT PAY-DAY WE'LL GET YOUR RING OUT OF HOCK, BUY THAT NEW HAT YOU WANT, MAKE AN EXTRA PAYMENT ON THE FURNITURE AND HAVE NINETEEN DOLLARS AND 67 CENTS LEFT.
OH, PROMISED DAY! PINCH ME, CULVERT. I MUST BE DREAMING.
NEXT PAY-DAY - THEY'LL DO IT EVERY TIME.
LET'S SEE - GROCERY BILL, MEAT BILL, GAS, MILK, LIGHTS, TELEPHONE, RENT - RENT? GREAT SCOTT! I FORGOT THE RENT! IF I CAN STALL THE FURNITURE PAYMENT WE'LL HAVE TWO BUCKS LEFT!
BARGAINS TODAY IN UNREDEEMED ENGAGEMENT RINGS
LOANS
5-13
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LETTERS

COIL MANUFACTURERS URGED TO ORGANIZE

American Coils, Inc.
25-27 Lexington St.
Newark, N. J.

Editor:

We wish to compliment your paper on the tremendous amount of work that you have done in getting the OPM and OPACS to recognize the refrigeration industry as an essential one. You have again proven that the industry would find it very difficult to get along without your paper.

The writer, personally, has subscribed to your paper since 1929 or thereabouts and always felt that you were doing a very good job with the industry.

We would like to call your attention to the coil and low-side manufacturers as a part of the refrigeration industry and wonder why when you make reports, etc., that you never mention this part of the industry. There must be at least twenty-five coil and low-side manufacturers in the country and though they are not organized at the present time, the writer feels that they should be given some recognition. Also, that they should be invited by your paper to organize for their own good.

We suggest that they join in with the new organization formed by the independent high-side manufacturers. I believe that their interests are parallel and would be of mutual benefit to each other.

T. W. BINDER

'YOU HAVE EARNED THANKS OF ENTIRE INDUSTRY'

Refrigeration Economics Co., Inc.
1232 Second St., N.E.
Canton, Ohio

Editor:

Thanks for your letter of the 31st relative to materials for commercial refrigeration.

You have certainly earned the thanks of the entire industry for the most excellent presentation of our requirements and what the industry can and must do for National Defense.

Our confidence in you to do a good job in this line was certainly not misplaced and our industry is very fortunate indeed in having your ability to fall back on in a case like this.

F. M. BENNETT,
President

TOO VALUABLE TO LOSE

Troop E.
Fort Riley, Kan.
c/o Camp Funston

Dear Sirs:

As we are going on maneuvers some time next week, will you please send my paper to the following address till further notice:

George Drost, Ireton, Iowa, c/o Bertha Walraven.

Your magazine is too valuable to take a chance at losing so figure better late than never.

PVT. GEO. DROST

CAN'T MISS A COPY

6521 Phinney Ave.
Seattle, Wash.

Sirs:

Would you be so kind and send the AIR CONDITIONING & REFRIGERATION NEWS to my new address as given.

I cannot afford to miss a copy as this NEWS is a great help in my business.

SGT. JAMES S. ISH

'ACCEPT OUR CONGRATULATIONS'

Glenn S. King
Smyrna, Dela.

Editor:

Please accept our congratulations on your untiring efforts to gain for the industry its rightful place on the front line of the national defense effort.

GLENN S. KING

NAM Warns:

3,000,000 Workers Face Loss of Jobs Unless Non-Defense Firms Get Materials

NEW YORK CITY—Nearly 3,000,000 employes in small non-defense manufacturing plants will face unemployment before March, 1942, unless revision of the priorities system for national defense permits these plants to get a small percentage of raw materials, declares Walter B. Weisenburger, executive vice president of the National Association of Manufacturers.

Preliminary reports from a survey of problems confronting small manufacturers, which is being conducted by the NAM in cooperation with the National Industrial Conference, indicate that many small plants will have to shut down for lack of raw materials.

Both government and industry are making studies in an attempt to alleviate the situation, Mr. Weisenburger said.

REVISE PRIORITIES

Suggesting that the priorities system be modified to permit non-defense plants to get sufficient raw materials to keep them going and their men employed, Mr. Weisenburger stated that 75% of an estimated 116,500 non-defense plants could continue operating with a small allotment from the government.

Citing the brewing industry as an example, Mr. Weisenburger pointed out that a small aluminum disk was needed in beer bottle caps to keep the beer from spoiling.

"If the industry cannot get the metal," he asserted, "it will have to quit making bottled beer."

Though the threat to non-defense employment is not yet serious, Mr. Weisenburger warned that if the situation continues unabated, the United States might have depression in non-defense areas and prosperity in defense production areas. Unemployment in non-defense plants would seriously hamper the nation's morale, he asserted.

To avoid this and to allow manufacturers to plan ahead on their production, he urged the government to "blueprint" both defense and non-defense manufacturing to determine the amount of supplies each section could be given.

Preliminary survey reports from 13 states that were in the hands of Mr. Weisenburger anticipated future non-defense unemployment.

Thirty-two Ohio employment offices revealed that "21,843 workers have been laid off or are scheduled for immediate lay-off in 141 different industries as the result of the effect of priorities and material shortages."

Associated Industries of Oklahoma estimated that material shortages had caused 10,000 men to be discharged or put on part time.

MASSACHUSETTS AFRAID

Associated Industries of Massachusetts feared "scores of smaller manufacturing plants totaling thousands of employes will not survive materials diversion."

The Alabama Chamber of Commerce figured that 40,000 workers and a $50,000,000 payroll were "jeopardized by priorities in this state."

Reporting that only 250 persons had lost their jobs so far, the Texas State Manufacturers Association declared that "we anticipate that in the next 90 days from 5,000 to 10,000 will likely be thrown out of employment unless proper steps are taken."

Though concerned about the situation, the Pacific Coast Association had little factual information and waited upon a more complete survey.

Production of Plastics Up, But Bulk Is Used For Defense Needs

NEW YORK CITY—Production of plastics this year will run some 200% ahead of 1940, on a poundage basis, but manufacturers who have been looking to this field as the answer to all their "substitute" problems may soon have to look around for a "sub-substitute" even for this.

Defense requirements are using more and more of the available supply, particularly for such airplane parts as bomber noses, revolving turrets, and fuselages, and a recent civilian allocation order for formaldehyde, para-formaldehyde, hexamethylenetetramine, and synthetic resins produced therefrom has classified the order in which various industries will receive preference ratings.

Class A covers public utilities, transportation equipment, trucks, fire-fighting equipment, technical instruments, chemical protective uses, communications, industrial equipment, oil wells, mining, industrial, food, and medicinal containers, and grinding wheels.

In Class B are such products as household appliances, radios, kitchenware, textile finishing, automobiles, domestic wiring devices, and furniture. Allocations in this class will be limited in amount. Class C uses, which receive no preference at all unless an undue hardship is worked on the manufacturer, causing unemployment out of proportion to the conservation of raw materials, are such goods as amateur cameras, hardware, decorative articles, premiums, advertising items, and toys.

Serviceman Tells Customers Ways To Save Freon

Conservation Program May Hold Supply

DALLAS, Tex.—The current situation with regard to "Freon" will serve to impress the operator of refrigerating equipment using "Freon" with the fact that economy in use of refrigerants is well worth his careful attention and that adequate servicing will go far toward its achievement, believes Curler Barron of the B & M Refrigeration Service Co. here.

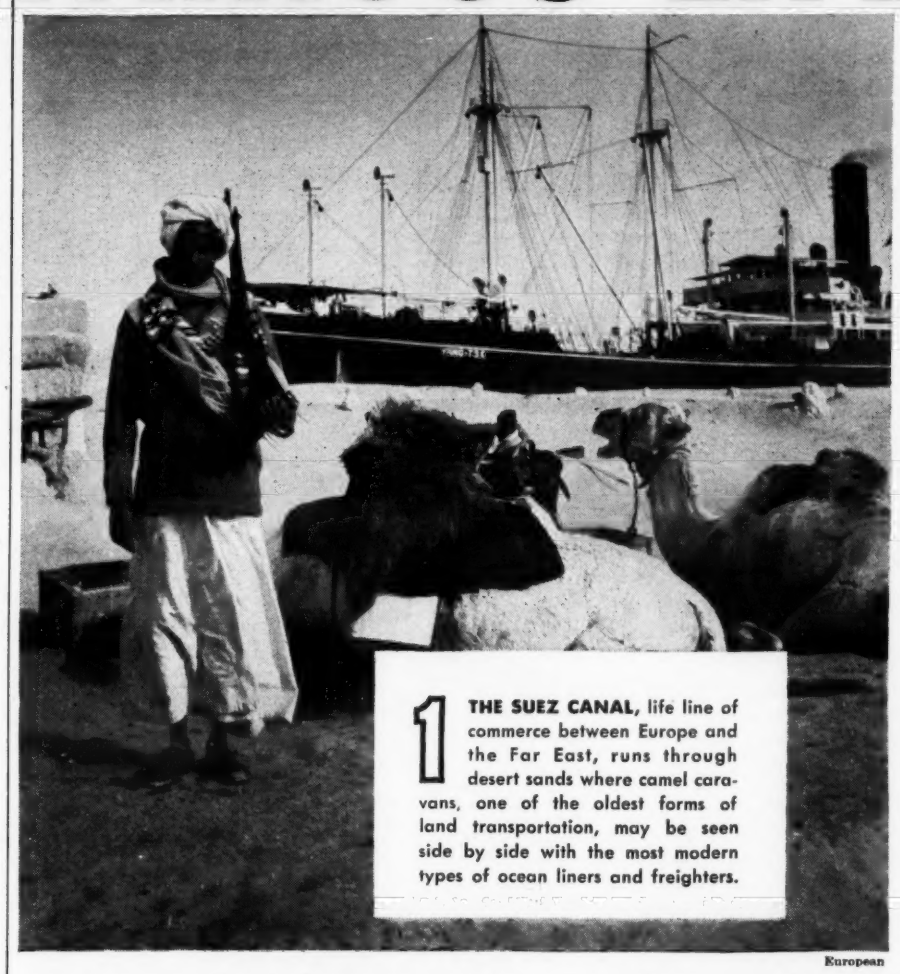
The service engineer is the man to impress this on the owners of equipment, Mr. Barron feels. If he doesn't do that, the service engineer will find himself in "hot water" and unable to get "Freon" to meet his ordinary needs.

In many cases, Mr. Barron says, wasteful use of "Freon" can be easily remedied. He cited an experience of his own.

Shortly after the new "Freon" order went into effect, Mr. Barron was called to replenish the gas in a cooling system that badly needed a new cooling tower. He refused to give the owner a refill until he got a tower, saying that under the circumstances he could not afford to sell him any more "Freon."

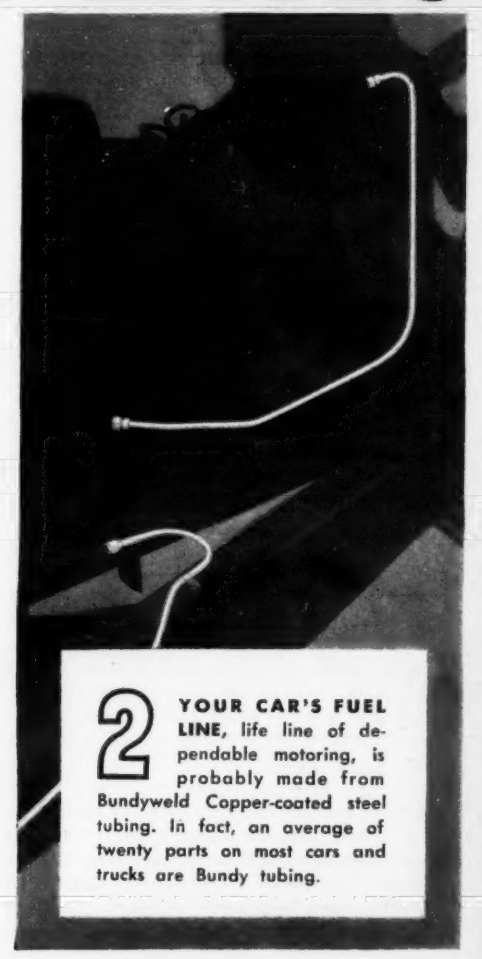
"I told him to have the job done by whoever he chose, and then I would take care of the gas," Mr. Barron relates. "I haven't heard from the fellow yet, but I don't doubt he'll get his badly needed tower."

FAMOUS LIFE LINES



1 **THE SUEZ CANAL,** life line of commerce between Europe and the Far East, runs through desert sands where camel caravans, one of the oldest forms of land transportation, may be seen side by side with the most modern types of ocean liners and freighters.

European



2 **YOUR CAR'S FUEL LINE,** life line of dependable motoring, is probably made from Bundyweld Copper-coated steel tubing. In fact, an average of twenty parts on most cars and trucks are Bundy tubing.

ALL DAY, every day, at home or at business, you make use of "famous life lines" by Bundy.

Your morning's shower and coffee, your cold drink from the office water cooler and your cold salad for lunch, that cold glass of milk at midnight and the air conditioner in your bedroom, probably all get their heat or their coldness from fuel distribution tubes or refrigeration condenser tubes of Bundy tubing.

And these are but a few of the multitude of points where you make a daily contact with Bundy tubing. Wherever fuel, or lubricants, or refrigerants must be carried, or hydraulic pressure transmitted — whether it be for household appliances or gigantic automatic machine tools—there you are apt to find Bundy tubing. For industry has learned that Bundy tubing is the *right* tubing for strength, for ductility, and for resistance to vibration fatigue.

If you use tubing in volume production — whether you prefer to buy commercial lengths or complete, fabricated parts, ready to install — you will want Bundy's complete story. Ask for a call from a Bundy representative — Bundy Tubing Company, Detroit.

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BUNDYWELD double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From Capillary sizes up to and including 7/16" O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.

BUNDY ELECTRIC WELD steel tubing. Single-walled — butt welded — annealed. Also furnished tin-coated outside if desired. Available in sizes up to and including 5/8" O. D.

BUNDY "TRIPLE-PURPOSE" MONEL tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel, Monel inside—steel outside, and Monel outside—steel inside. Sizes up to and including 3/8" O. D.

OPM Revokes General Metals Order No. 1, But Other Restrictions Are Still In Force

WASHINGTON, D. C. — General Metals Order No. 1, issued by the Priorities Division of the Office of Production Management on May 1, was revoked last week in an order signed by Donald M. Nelson, Director of Priorities.

The general metals order placed 16 metals and types of metals under inventory control. Since then a number of these materials, including copper, and iron and steel products, have been placed under mandatory industry-wide control.

Other metals originally included in the order were: Antimony, cadmium, chromium, cobalt, copper, ferrous alloys (all types), iridium, iron and steel products (including rolled, drawn, forgings, castings, and pig iron), lead, manganese or spiegeleisen, mercury, molybdenum, nonferrous alloys (all types), tin, vanadium, and secondary materials.

Termination of General Metals Order No. 1 does not lift the restrictions it imposed, however, as these are included in Priorities Regulation No. 1 issued Aug. 27. The paragraph dealing with inventories reads as follows:

"Unless specifically authorized by the Director of Priorities, no person shall, after the effective date of this regulation, knowingly make delivery of any material whatever, and no person shall accept delivery thereof, in an amount, quantity, or number which will increase for any current month the inventory of such material of the person accepting delivery, in the same or other forms, in excess of the amount, quantity, or number necessary to meet required deliveries of the products of the person accepting delivery, on the basis of his current method and rate of operation."

Price Cut 2 Cents on Synthetic Methanol

WILMINGTON, Del. — Reduction in price of pure synthetic methanol to 28 cents a gallon in tank car lots from the former price of 30 cents was announced last week by E. I. du Pont de Nemours & Co., Inc., the sole producer. Pure synthetic methanol is used in the production of formaldehyde, used in plastics.

Ceiling price of approximately 60 cents per gallon on natural pure methanol was said to be under consideration by the Office of Price Administration. Because of its acetone content, however, natural methanol is not used in making formaldehyde, but both natural and synthetic alcohols are used as cutting agents for processing cellulose, cutting shellac, etc.

However, it was believed that even OPA's setting of a ceiling price would not make much additional methanol available to small users.

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or National Ammonia Division
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Design of Installation For a Fresh & Frozen Fish Distributor

Editor's Note: This is one of a series of articles discussing methods of estimating load requirements, selecting equipment, and making the proper kind of an installation for specific types of commercial refrigeration installations. Sam Moncher, author of these articles, is a refrigeration engineer who has done considerable work in estimating for commercial installations.

By Sam Moncher

The fish industry has been associated with refrigeration from the very inception of the latter; more so, perhaps, than is the case with any other branch of the food industry.

There are several reasons for this. In the first place, fish deteriorate very rapidly once removed from the water, and may be kept fresh only by resorting to immediate refrigeration. In the second place, the development of the fish industry has been contingent upon the availability of a wide market, which was made possible by the development of refrigerated transportation facilities.

Ordinary conditions of refrigerated storage, say 36°-85% relative humidity, are of little value in fish preservation due to the rapid rate of dessication which fish undergo, causing the skin to become shriveled and unwholesome in appearance.

One way to overcome this tendency is to remove the skin from the fish, and prepare the edible flesh into slices (or fillets, as they are known in the trade). The fillets are then packed in moisture-proof containers and treated like perishables of the meat trade.

Whole fish, however, must be surrounded by cracked ice for effective preservation above freezing temperatures. In order to minimize the constant replenishing of the ice, it is common practice to provide mechanical refrigeration to prevent or retard the ice melting.

Freezing is particularly effective when applied to fish storage for the following reasons:

(1) The freezing process forms a layer of ice over the fish, thereby preventing dessication.

(2) The lower temperatures retard more effectively the oxidation of the oils in the flesh of the fish (in addition, of course, to inhibiting to a greater degree the other causes of spoilage).

The distributor of fish products ordinarily receives his goods either in an iced or frozen condition. Depending on market conditions, a certain amount of the iced fish may have to be frozen before being sold.

Taking into account all contingencies, therefore, equipment will have to be installed to provide for (1) the holding of iced fish, (2) the holding of frozen fish, and (3) the freezing of iced fish. This can well be accomplished by the use of two refrigerators, one held at 30°, and the other at 10°, as described in the installation considered below.

Survey Sheet

	Iced Fish Refrigerator	Freezer
Outside dimensions	16′ x 12′ x 8′	10′ x 12′ x 8′
Insulation	6″ corkb'd	6″ corkb'd
Ambient temp.	100°	100°
Refrigerator temperature	30°	10°
Product load per 24 hrs.	2,000 lbs. fish packed in ice at 32°	500 lbs. frozen fish at 20° 300 lbs. fish at 32°
Men working	3 for 8 hrs. per day	

Load Calculations

A. HEAT GAIN OF ICED FISH REFRIGERATOR

Total outside surface =	840 sq. ft.
Area exposed to refrigerated space =	96 sq. ft.
Net exposed area =	744 sq. ft.
Cubical content =	1,155 cu. ft.

	B.t.u./24 hrs.
Insulation loss = 744 x .05 x 70 x 24 =	62,500
Usage loss = 1,155 x 2.3 x 24 = (see Table 1)	63,800
Product load = 2,000 x .5 x 2 =	2,000
Human load = 500 x 3 x 8 =	12,000
Total load =	**140,300**

Hourly load based on 16-hr. operation = 8,800 B.t.u./hr.

B. HEAT GAIN OF FREEZER

Total outside surface =	512 sq. ft.
Area exposed to refrigerated space =	96 sq. ft.
Net exposed area =	416 sq. ft.
Cubical content =	693 cu. ft.

	B.t.u./24 hrs.
Insulation loss = 416 x .05 x 90 x 24 =	45,000
= 96 x .05 x 20 x 24 =	2,300
Usage loss = 693 x .3 x 24 = (see Table 1)	5,000
Product load = 500 x 10 x .5 = = 300 x 4 x .8 = (sensible heat before freezing)	2,500 1,000
= 300 x 110 = (latent heat) =300 x 18 x .5 =	33,000
(sensible heat after freezing)	2,700
Total load =	**91,500**

Hourly load based on 16-hr. operation = 5,700 B.t.u./hr.

Fig. 1. Coil and Baffle Arrangement

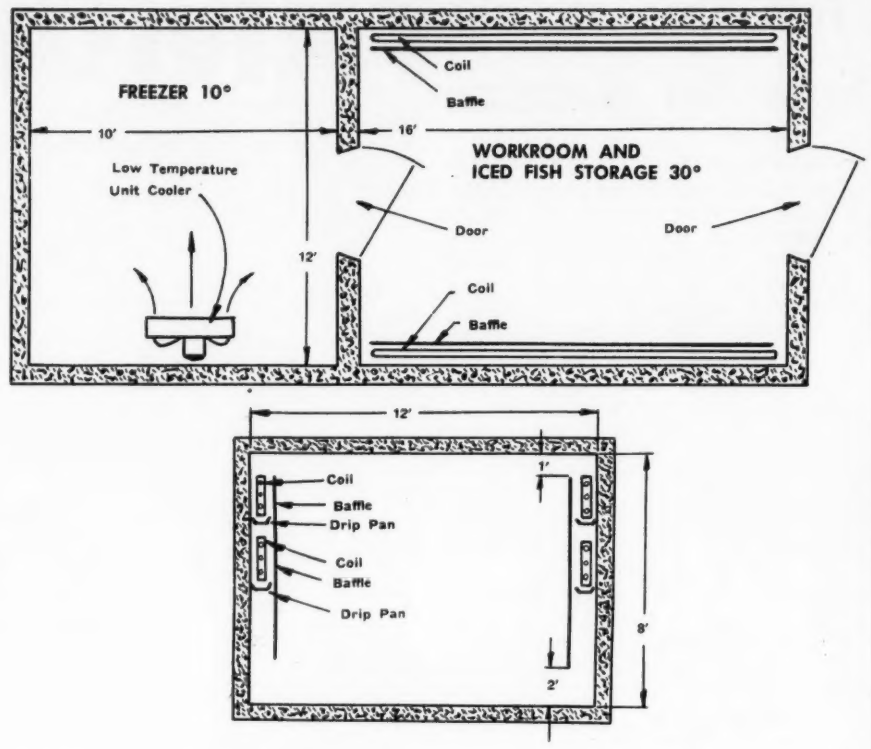
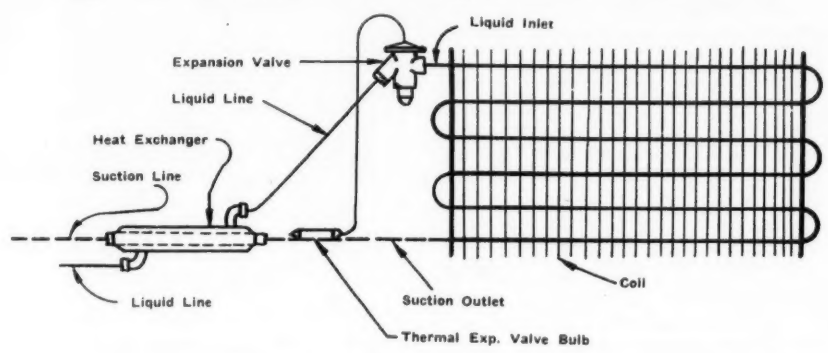


Fig. 2. Details of Evaporator Installation



EQUIPMENT FOR ICED FISH REFRIGERATOR

In order to minimize spoilage which may result due to breakdown of the refrigerating system, it is advisable to figure on two independent systems with separate condensing units for each refrigerator.

The iced fish refrigerator presents a special problem, because the purchaser objects to forced air in this room inasmuch as men are to work here continually cleaning the fish and preparing them for shipment. Ceiling coils are impossible due to the low refrigerator height, making mandatory side wall coils running the length of the refrigerator.

Finned coils with 2-inch fin spacing are suitable to an application of this type where the moisture content of the air is very high and rapid ice formation on the coils is to be expected. The total capacity of these coils is to be 8,800 B.t.u. per hour at a temperature difference of 15° between air and refrigerant. It will be found that four coils, each approximately 4 inches wide by 15 inches high by 14 feet long will be necessary to produce this capacity.

Fig. 1 shows how these coils are installed and baffled. Two coils are mounted along each side wall, one under the other and about 2 inches away from the wall. In order to prevent the water from one coil from dripping on the one below during defrosting, separate drip pans with many large drain pipes are provided for each coil.

A solid baffle is installed about 2 inches away from the coils and extended from the top of the uppermost coil (1 inch from ceiling) to 2 feet from the floor.

Each coil should be provided with its own individual expansion valve and heat exchanger, as shown in Fig. 2. The condensing unit manifolded to the four coils will require a capacity of 8,800 B.t.u. per hour at 15° suction temperature, which specification is met by the average 1-hp. water-cooled condensing unit.

NOVEL DEFROST SYSTEM

In order to maintain the efficiency of the coils, it will be necessary to defrost them periodically as they become laden with ice. Finned coils do not lend themselves to the manual removal of the ice formation, and other means must be provided.

A novel method is to set up refrigerant by-pass lines which will allow one coil to be defrosted while the others continue to refrigerate. Fig. 3 illustrates schematically how this may be accomplished by utilizing the coil to be defrosted as an auxiliary condenser for the other coils.

The system operates as follows: To defrost coil A, suction shut-off valve "A" is closed, and bypass valve "A" and hot gas valve "A" are opened. The hot gas bypass valve at the compressor is then opened, causing the hot gas to enter coil A through the suction line. The gas condenses to a liquid, thereby warming the coil and causing the ice on its surface to melt; after which it finds its way into coil "B" via the expansion valve "A" bypass.

The refrigerant evaporates in coil "B," maintaining partial refrigeration and providing gas for the compressor to return into coil "A." When defrosting is accomplished, the hot gas bypass valve at the compressor is closed, followed by the opening of suction shutoff valve "A" and the closing of hot gas valve "A" and bypass valve "A." The operation of the system now returns to normal without an objectionable temperature rise in the refrigerator having taken place.

EQUIPMENT FOR FREEZER

The low side for the freezer is to be a low temperature forced air unit equipped with a water distributing header for defrosting. Fig. 4 shows how the water supply line and drain pipe are connected to the water distributor.

When the unit is to be defrosted, the compressor and fan motors are first shut off, and then water valve "B" is opened, allowing the supply water to flow into the distributor and down over the iced coil, thereby melting the ice. The water then leaves the unit through the extra large drain pipe (2-inch IPS), carrying away all traces of frost.

After complete de-icing is accomplished, water valve "B" is shut, and an interval of about 5 minutes is allowed before the compressor and fan motors are turned on. This is to permit all the water on the surface of the coil to drain off, and not subsequently be formed into ice when the system starts to function.

It is necessary to take precautions to prevent the freeze-up of the supply and drain lines when the defrosting system is not in use. As

(Concluded on Page 9, Column 1)

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Special Precautions Against 'Freeze-Ups' Needed In Fish Job

(Concluded from Page 8, Column 4)

far as the drain is concerned, a 2-inch pipe will afford ample flow area, so that a complete freeze-up will be very rare.

In the case of the supply line, however, it will be necessary to provide a means for drawing off the water remaining between shut-off valve "B" and the water distributor in the unit cooler.

Fig. 4 shows how this may be accomplished by tying in the supply and drain lines by means of water valve "A." While the defroster is on, valve "A" remains closed, forcing all the water into the water distributor. When the defroster is shut off, however, valve "A" is opened, permitting the water remaining in the supply line to flow back into the drain.

The selection of the unit cooler should be made to provide a unit with a capacity of not less than 5,700 B.t.u. per hour at a temperature difference of 15° between air and refrigerant. A ¾-hp. condensing unit will balance out with low side at a refrigerant temperature of about —5°. If a pressure control is used with "Freon-12" refrigerant, the settings will be approximately cut-in, 14 lbs.; cut-out, 4 lbs.

TABLE 1

Empirical usage factors for fish refrigerators, expressed in B.t.u. per hour per cubic foot of interior capacity, and based on a temperature difference of 60°-70° for the iced fish refrigerator, and a temperature difference of 80°-90° for the freezer.

A. ICED FISH REFRIGERATOR

Size	Factor
Under 300 cu. ft.	4.8
300- 500 cu. ft.	3.6
500- 700 cu. ft.	3.0
700-1,000 cu. ft.	2.6
1,000-1,500 cu. ft.	2.3

B. FREEZER, OPENING OFF ICED FISH REFRIGERATOR

Size	Factor
Under 200 cu. ft.	.70
200- 300 cu. ft.	.60
300- 400 cu. ft.	.50
400- 500 cu. ft.	.40
500- 600 cu. ft.	.35
600- 750 cu. ft.	.30
750-1,000 cu. ft.	.25

Cooling Tower Has Plastic Fan Blades

WEST LYNN, Mass.—The longest mold ever made by the plastics department of General Electric Co., largest molder of plastics in the country, is being used here to produce fan blades formerly made of metals. The fan blades, 4½ feet long, are made for the Foster Wheeler Corp. for cooling tower fans.

A molded plastic fan blade is particularly important at this time because of the need of metals formerly used, such as aluminum and magnesium, for defense.

The fans are used in large cooling towers required for cooling great quantities of water need for power plants, condensing oil refineries, air conditioning, and similar applications. The new plastic blade is lighter than the metal blades it replaces, but is of about equal strength.

Corrosion was the chief trouble in the use of metal blades. To offset this, the blades had to be painted and baked. The plastic fan eliminates this difficulty.

Another advantage is that the plastic blades have the theoretically exact surface which is smooth, due to the fact that they are made from a mold.

On one recent appplication in an important defense project before the development of the plastic blade, anticipated corrosion difficulties necessitated using a stainless steel blade, adding very greatly to the cost and total weight of the fans.

The fan blades are made of a molded-laminated Textolite. They weigh approximately 25 lbs. each. Four blades are assembled on a molycast iron hub to make a fan of 12-foot diameter.

Fig. 3. - - Method For Defrosting

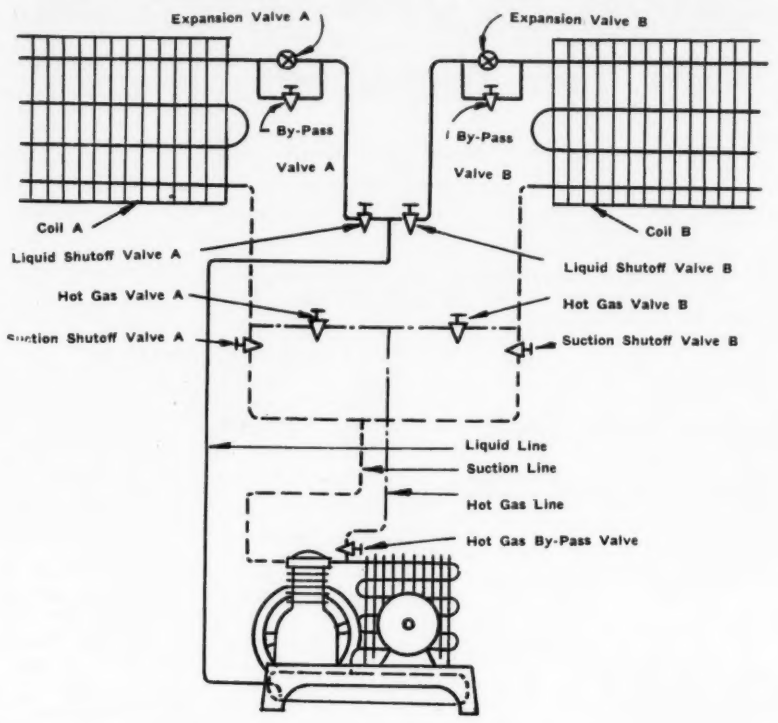
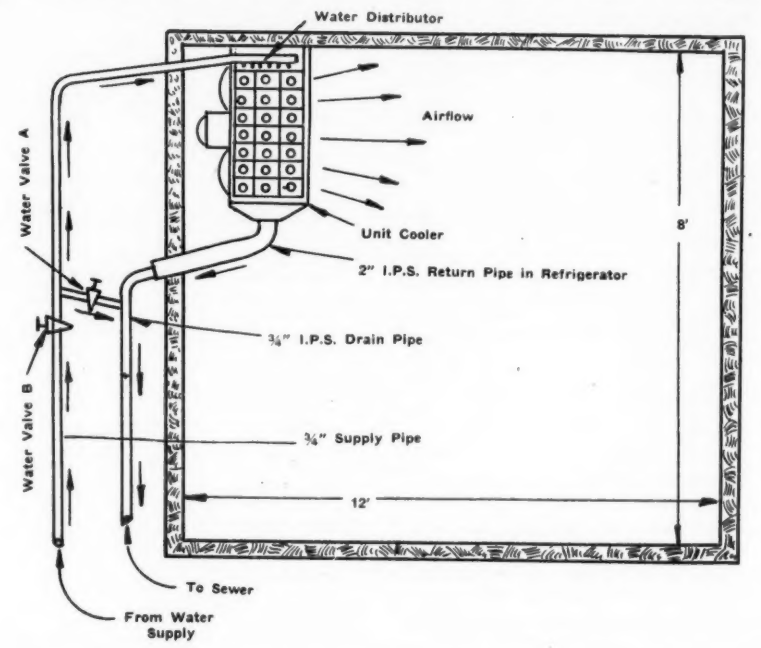


Fig. 4. - - How Water Lines Are 'Tied' Together



Vise Refrigeration Service Moves Into Own Building

COLUMBIA, S. C.—Vise Refrigeration Service recently moved into a new building of its own at 2240 Sumter St. here. The building, of concrete block construction, is 50 x 120 feet in size, with ample space for the sale, display, and servicing of all types of appliances and equipment.

Large display room is located at the front of the building, with service department occupying the rear. In addition to handling service work on household and commercial refrigeration, air conditioning, and major appliances of all types, the company also is dealer for Hotpoint home appliances and Servel, Tyler, Lipman, Seeger, Victor, Mills, and General Electric commercial equipment. Complete stock of replacement parts is carried.

B. M. Vise, owner and manager of the business, is a 20-year veteran of the refrigeration industry, and installed some of the first electric refrigerators in this territory. He formerly was service manager for Frigidaire and Delco Light products in this state, and was for four years associated with Perry-Mann Electric Co. The company will employ a staff of 11 persons.

Maj. Troskoff, Engineer For General Electric, Dies

NEW YORK CITY—Maj. Baron Nicholas I. Troskoff, an electrical engineer and air conditioning expert for General Electric Co., died here Sept. 11 of a coronary thrombosis.

Born in Russia, he served with the Grodnenski Hussars' Regiment of Russian Imperial Guard Cavalry from the outbreak of the World War until the outbreak of the Russian revolution, being decorated for distinguished service and bravery.

When the revolution broke out, he served in the Dvosdovsky Regiment of the White Army, and escaped to China after the revolution succeeded, coming to Seattle, Wash., in 1923 and later studying at Stanford university.

Lowered Relative Humidity Shuts Out Ether Fumes In Hospitals

BUFFALO—Odors of ether fumes in four air conditioned operating rooms at Children's Hospital here have been practically eliminated by reducing the relative humidity from 65% to 55%.

The recently completed windowless operating rooms are conditioned by a 15-ton Carrier conditioner powering a system which includes a Precipitron to remove air borne bacteria and dust, and special pneumatic controls. All air is drawn in from outdoors.

A centrifugal fan forces air through individual ducts to each operating room where it is discharged through ceiling diffusers designed to eliminate drafts or air movement over the operating table which might prove detrimental to the patient. Secondary control of air temperature and humidity is maintained by reheating coils which are mounted in each of the ducts.

Air is withdrawn from each of the operating rooms at the floor line, and from the ceiling of the adjoining sterilizer rooms by an exhaust fan on the roof of the building. To maintain a positive pressure within the rooms, this fan exhausts slightly less than the amount of air supplied.

Pneumatic controls include a dew-point controller operating a steam valve on a recirculating water heater, and a steam valve on a pre-heat coil when temperature falls below a certain point. When operating room temperature rises above a desired level, the refrigeration machine cuts in. Each operating room is equipped with a room thermostat which operates a steam valve on its respective reheat coil to maintain a constant room dry-bulb temperature.

The air conditioning system in each operating room operates only when the room is in use, thus reducing operating costs. When the conditioning system is turned off, a steam convector controlled by the room thermostat maintains the dry-bulb temperature.

Curtiss-Wright Offices Get Big Cooling Plant

BEAVER, Pa. — Administration building of the steel-bladed propeller-plant scheduled for completion here Oct. 1 by Curtiss-Wright Corp. will have three systems furnishing year-around air conditioning and humidification.

The three-story building 150 x 50 feet, standing alongside the airplane-propeller plant, will have a 75-ton system in the Administration building, a 7½-ton system in its office annex, and a 3-ton system cooling the private dining room.

Installation will have a water-cooled condenser, practically all overhead distribution, and a complete system of zone controls.

New Milwaukee Firm

MILWAUKEE—Central Refrigeration, Inc., is a new contracting and general air conditioning engineering firm opened here recently. Incorporators are W. F. Nolecheck, M. J. Berenstein, and J. L. Terrell.

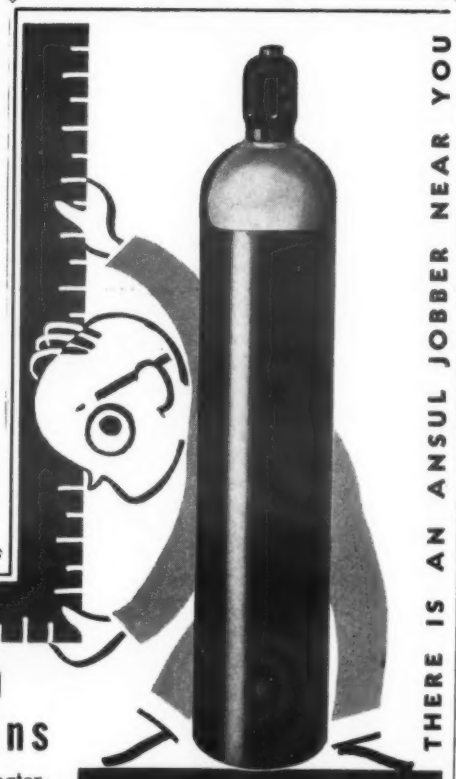
$100,000 'Cold' Tunnel To Test Radiators

LOCKPORT, N. Y.—The Harrison Radiator division of General Motors Corp. has begun construction of a $100,000 automobile and aviation refrigerated test tunnel near its engineering department here.

The building will be two stories high, with a refrigerated wind tunnel for testing radiators and automobile accessories on the first floor, and aviation tunnels on the second floor to test oil coolers and airplane parts.

Cooling Boosts Bank Deposits By Half

SAN JUAN, Puerto Rico—Largest and most modern commercial building in the West Indies, the 11-story Edificio Banco Popular de Puerto Rico has been filled with tenants and the bank's deposits have increased 50% since the structure was completed in 1939. Success of the building has been due to the fact that it is completely air conditioned.



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Ansul Jobber service has two prime characteristics: It is square like the corners of this advertisement; and like this advertisement it extends itself in two directions — one, toward efficient, expert servicing of your needs; two, toward genuinely friendly and helpful attention to your business. We are proud of our Ansul Jobbers. You will be pleased to discover why.

Agents for Kinetic's 'Freon-12'

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MUELLER BRASS CO.

Improved HEAT EXCHANGER

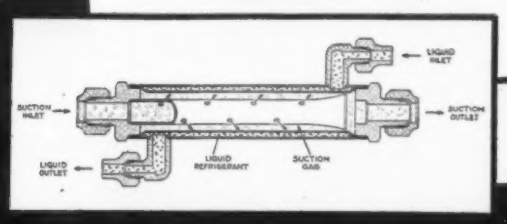
Compact and Efficient For Ice Cream Cabinet Installation

● The Heat Exchanger illustrated below is an addition to our line and intended for use in ice cream cabinet work and in similar installations where a small, compact, yet very efficient heat exchanger is required. Note that overall length is only 8¼".

It is designed to provide maximum heat exchanging capacity where available space is at a premium. Special combinations of inlet and outlet fittings can be furnished so that this compact unit can be adapted to your particular requirements.

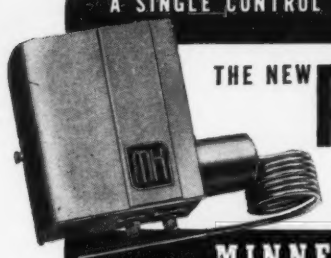
Catalog No.	Suction Line	Liquid Line	Overall Length	Heat Transfer Area
A-13730	½" Flare	¼" Flare	8¼"	18 Sq. In.

Flare Nuts and Seals are furnished with Exchanger, thus keeping units dry and clean.



MUELLER BRASS CO.
PORT HURON, MICH.

A SINGLE CONTROL *Universal in Application*



THE NEW **POLARTRON** FOR PRESSURE CONTROL UP TO 1 H.P.A.C

Separate "On and Off" Knobs ★ Universal Range ★ Capillary Pressure Connections ★ Fewer Models to Stock ★ Minimum Free Service ★ "Cooling Control" on Cut Out or Cut In ★ No Short Cycling ★ Polartron Equipped Compressors can be Converted to Produce Frost Free Constant Cold

Note these Advantages

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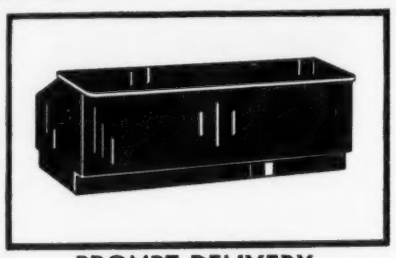
REFRIGERATION *Control*
AUTOMATIC CONTROLS MH



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DRY STORAGE BOTTLED BEVERAGE COOLER
ADDED CAPACITY—QUICKER COOLING
EXTRA CONVENIENCE—MORE ECONOMY
NEW EXTERIOR FINISH
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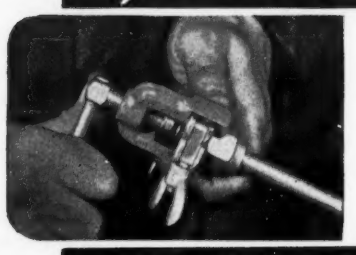
HERE'S YOUR CHANCE TO DOUBLE YOUR VOLUME!

FOGEL REFRIGERATOR COMPANY • Since 1899
Philadelphia, Penna.

You can SPEED UP your flaring!



● The new Imperial Flaring Tool with slip-on yoke, provides ease and speed of operation never before attained in a flaring tool.

The yoke is made so that it can be slipped on over the bar without twisting or turning. The inside edges of the yoke are slotted so that once in position a slight turn holds it in place on the bar. Yokes are made of forged steel.

An additional advantage of this tool is the construction of the bottom of the yoke, which permits flares to be made where there is little space between nut and the end of tubing. Fin tubing sometimes offers this problem.

Flares soft copper, brass or aluminum tubing.

No. 195-F Imperial Flaring Tool, flares ¼", 5/16", 3/8", ½" and 5/8" O. D. tubing. Price each..... $4.25

Also available for all other sizes of tubing.

THE IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago, Ill.

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Tamper Proof Sealed

AMINCO

SUREDRY DEHYDRATORS

Sealed at factory to insure "factory fresh" dehydration at installation time. Silica Gel fill does not cake. Filter gives five times the filtering area of screen wire. One piece copper shell. Filters are securely anchored to shell. Made in non-rechargeable and rechargeable units. No pressure drop—full filtering effect. The last word in dehydrating efficiency. Fresh up to the instant of usage.

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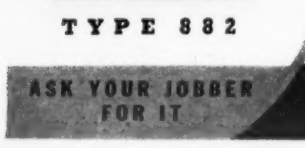
Pacific Coast: Van D. Clothier, 1015 E. 16th, Los Angeles *Export:* Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

STRAINER with Felt Sack

Henry



TYPE 882

An inexpensive strainer with relatively large screen and sack area. Felt sack is supported inside screen for fine degree of filtering. Gasketed joint at inlet end permits easy removal of screen and sack for cleaning or replacement.

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PERFORMANCE

Performance that is perfect every minute of the day . . . that's what you get with every Koch display case. Miraflex cooling units mean perfect refrigeration. K-Beam lighting gives added sales impetus to profit-making displays. Welded steel construction and 4-in. insulation . . . permanent satisfaction built right into the case. Investigate the Koch case . . . and the complete Koch line. Write today for complete details, open territories, and Koch selling plan.

KOCH REFRIGERATORS
NORTH KANSAS CITY, MISSOURI
You'll make money selling

Servicing Ice Cream Cabinets and Other Low Temperature Equipment

By Arch Black and Dean C. Seitz

Editor's Note: This is the eighteenth instalment of a new section on ice cream cabinet servicing in the series of articles which covers servicing of all types of low temperature refrigeration equipment for use in retail business.

Servicing High Side Float Systems (Cont.)

COMPLAINT No. 2—Ice cream too soft—machine will not run.

All of the causes listed below are exactly the same as those outlined for the low side float valve system in previous articles.

Cause No. 1—Motor pulley loose.

Cause No. 2—Belt slipping or broken.

Cause No. 3—Compressor stuck.

Cause No. 4—Lost charge in thermostatic control.

Cause No. 5—Main electrical switch off.

Cause No. 6—Fuse blown.

Cause No. 7—Loose electrical connection.

Cause No. 8—Blown overload protection.

Cause No. 9—Control contact not making.

Cause No. 10—Low voltage.

Cause No. 11—Motor trouble.

COMPLAINT No. 3—Machine runs too much of the time—ice cream either too hard or satisfactory.

Cause No. 1—Shortage of refrigerant.

This cause and its remedy has been covered under Complaint No. 1, cause No. 1.

Cause No. 2—Inefficient compressor.

This cause and its remedy has been covered under Complaint No. 1, cause No. 8

Cause No. 3—High condensing pressure.

Since ice cream cabinets using the high side float valve system are of the portable type using air-cooled condensing units, this complaint may be caused by either extremely high air temperatures passing over the condenser or by insufficient supply of air.

Neglecting the possibility of air in the system, which will be covered later, the remedy may consist of relocating the entire ice cream cabinet so that it will be possible to pass cooler air over the condensers. The manufacturer's recommendations as to the distance the cabinet should be located from a wall should be followed implicitly in installing the cabinet.

Cause No. 4—Cut-out point of temperature control too low.

The remedy for this complaint is practically obvious. The cut-out point of the temperature control should be set in accordance with the recommendations published by the manufacturer of the cabinet.

Cause No. 5—Air in the system.

This condition will result from a leak or a failure to remove all of the air from the system.

The air in the high side float valve system will collect in the high side float chamber and will result in either normal or poor refrigeration with excessive running time, combined with a condenser pressure higher than usual.

The remedy is to purge the system until the operating conditions are normal.

In purging the high side float valve system the refrigerant charge is rather critical. Always remember that care must be used so that the system will not become undercharged. However, sufficient time should be taken and sufficient refrigerant should be purged to do a good job. A slight leeway in the refrigerant charge is possible due to the use of an accumulator on the system.

The remaining causes No. 6 to No. 11 are exactly the same as those described under similar headings for the low side float valve system.

Cause No. 6—Belt slipping.

Cause No. 7—Pitted control contact.

Cause No. 8—Defective temperature control.

Cause No. 9—Cabinet in too warm a location.

Cause No. 10—Low voltage.

Cause No. 11—Motor trouble.

COMPLAINT No. 4—The machine short cycles.

Cause No. 1—Temperature control switch does not latch when the control cuts in.

Since a temperature control is used on all ice cream cabinets equipped with a high side float system, any cause of short cycling must inherently be looked for in the control itself. The remedy is either to repair the control in accordance with the manufacturer's instructions or to replace it with a new one.

Cause No. 2—Temperature control set on too close a differential.

The obvious remedy is to widen the differential of the temperature control to eliminate short cycling. Use the manufacturer's recommended setting.

Philadelphia Rate Cut To Save $4,000,000

PHILADELPHIA — The largest single rate reduction ever made by the Philadelphia Electric Co., which took effect on Sept. 1, will save Philadelphia users $4,000,000 annually, H. P. Liversidge, president of the company, announces. The reduction was recently ordered by the Pennsylvania Public Utility Commission.

Though the base rate of 75 cents for the first 12 kwh. remains the same, the rate for additional kwh. has been reduced and the scale decreases more rapidly. Formerly the next 28 kwh. cost 5 cents per kwh.; the next 35 kwh., 3 cents; and over 75 kwh., 1.7 cents per kwh. Under the new rates, the next 24 kwh., cost 4.8 cents; the next 36 kwh., 2.8 cents; and over 72 kwh., 1.65 cents per kwh.

This schedule applies to the city proper. Rates for suburban territory follow a similar reduction pattern.

Savings of over $1,250,000 accrue to residence customers, $1,970,000 to smaller commercial and industrial users, and $635,000 to larger commercial and industrial customers. The City of Philadelphia and the Board of Education will save $175,000 by the reduction, Mr. Liversidge stated.

Hitterdal, Minn. Gets Lockers

HITTERDAL, Minn.—Anton Melbye is building a frozen food locker storage plant here. It is scheduled to be open this fall.

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VIRGINIA SMELTING CO.
Located at tidewater
WEST NORFOLK, VA.

VIRGINIA

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers
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LET US SOLVE YOUR
COIL PROBLEMS
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Automatic Controls and Switches
For Recognized Reliability
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FOR ALL TYPES OF
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COMPLETE LINE
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Buy **fedders COILS**
AND HAVE THE ADVANTAGES OF ALL COPPER CONSTRUCTION
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Air Conditioning Aids Mobile Darkroom

WILMINGTON, Del.—Finding it almost impossible to turn out satisfactory work during hot or humid weather, Hugh MacNair Miller, Jr., well known free-lance photographer who travels cross-country in a trailer equipped with a complete darkroom, had a window-type air conditioning unit installed, and the problem was solved.

The trailer is completely equipped to handle the most difficult photographic work in black and white or in full color, permitting Mr. Miller to follow special assignments almost anywhere.

While in Wilmington, he told his problem to engineers of the Keil Motor Co., Carrier distributor, who installed a unit in the rear window of the trailer.

Constant temperature and humidity conditions are now maintained in the darkroom, regardless of the weather, permitting the exact developing of pictures.

Down For a Year, He Keeps Smiling

H. G. "Red" Klugman, salesman of Williams & Co., Cincinnati jobber, contacts a customer by telephone with the aid of his wife, as Al Chadburn, Jr., his boss, glances through a catalog.

* * *

Selling Slant Works For Bedridden Salesman; Composer Appears

CINCINNATI—Al Chadburn, Jr. of the refrigeration department of Williams & Co., refrigeration supplies jobbing firm here, took a note from one of "Sam" Vining's "Selling Slants" (which have appeared in the NEWS from time to time) to bring a well-known musician to the bedside of H. G. "Red" Klugman, one of his field salesmen who has been ill for over a year.

As related in a story in the Sept. 10 issue, Mr. Klugman, although forced to stay flat on his back, has kept in contact with his customers by telephone and through the mails, to the extent that his home in the Oakley subdivision is known as the "Oakley" branch of Williams & Co.

"You might be interested in learning that the application of one of Sam Vining's principles as published in the NEWS some time ago resulted in 'Red's' having a very enjoyable half hour recently," relates Mr. Chadburn.

"Sam Vining, in one of his 'Sam's Selling Slants,' said that there was no harm in asking for something, and he illustrated his story by telling about the time when he, as a real small boy, attended a concert by John Philip Sousa and his band. Sam was so enthralled by Sousa's playing of 'Stars and Stripes Forever' that at the conclusion he completely forgot himself and cried, 'Please, Mr. Sousa, play it again.' Which, Sam relates, Sousa did.

"Remembering this, and knowing that 'Red' is very fond of Frankie Carle's music, we took the bull by the horns and when Frankie Carle played a recent engagement here with the Horace Heidt band we wrote him asking if he would go out to see 'Red.'

"Frankie Carle very graciously agreed to do this, and although he was on a tight schedule with five to six shows a day, rehearsals, personal appearances, etc., he did go out to 'Red's' house and played for him about half an hour. He played 'Sunrise Serenade' which he composed and another one which he has just recently composed which he said he had never before played for any one."

Florida Will Pre-cool 1941 Celery Crop

PAHOKEE, Fla.— A pre-cooling plant for the handling of this season's celery crop will be installed at the Pahokee State Market, according to John A. Dulany, manager. The plant is to be ready for the December harvest. Planting figures indicate several thousand acres will be devoted to celery, the largest acreage in years.

Gilmer Nets $154,083

PHILADELPHIA—L. H. Gilmer Co. for the six months ended June 30 reports net income of $154,083, equal to $1.86 a share on 82,824 shares of stock, as compared to $53,595, or 65 cents a share, for the same period of 1940. Net sales for the first half of this year were $1,196,251, as compared to $713,655 last year.

Washer Men Believe They Are 'Educating' OPM

CHICAGO — Although realizing that the eventual cut in washer and ironer production may eventually be considerably heavier than the 30% originally dictated on Aug. 1 and now in effect, optimists among laundry equipment manufacturers feel there is reason to belive that recent conferences with OPA officials have made some headway in "educating" defense heads as to the needs of the industry and its value to the American housewife.

Thus far, industry spokesmen declare, manufacturers have done an outstanding job of eliminating defense metals from their products. The former annual consumption of 10,000,000 lbs. of aluminum has been eliminated entirely, and only one-fourth as much zinc and two-thirds as much rubber as formerly needed are now being used. Copper, chrome, and other defense metals are being employed as little as possible.

Facing the situation realistically, however, the industry is producing as many washers and ironers as present inventories of parts and materials will allow. Some companies are reported to be operating at 80% of capacity. Actual production figures are unknown, however, since the American Washer & Ironer Manufacturers Association has ceased to issue monthly shipment reports.

At the present time, the industry is suffering most from unbalanced inventories. Washington has been able to offer no hope that the situation will be remedied, it is reported. Some firms are finding it hard to get small parts and basic materials, while others are long on washer tubs and short on motors, or vice versa.

An engineering committee appointed by the industry is now working in Washington to keep in contact with defense contracts. Its work to date has been nothing to brag about, in terms of contracts, though its reception in Washington has been cordial. E. C. Buchanan heads the committee.

Servel Moves Coast Office

SAN FRANCISCO — Regional offices of Servel, Inc. here have been removed to a new location, 1557 Russ Building. C. A. Miller is regional sales manager.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

POSITIONS WANTED

A PRACTICAL and well trained refrigeration service man of 18 years' experience, with general knowledge of heating, electric range, and home laundry equipment desires position in Michigan, Ohio, or Indiana. Capable of assuming complete charge of appliance service department. Can furnish best of references. Box 1355, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

DIRECT FACTORY Connection: Sell Refrigerator Display Cases, Walk-In Coolers, Reach-In Refrigerators, Refrigerating Units to Meat Markets, Grocers, Taverns, etc. Financing arrangements to help sell. Write for full information or see EHRLICH REFRIGERATOR MFG. CO., St. Joseph, Mo., Dept. 4.

CASH IN on the General Refrigerator's new line of Display Cases, Reach-In Cabinets, Walk-In Coolers, Beer Pre-Coolers, Bottled Beer Display Cases and Produce Refrigerators. Prices lowest in the industry comparing equal quality and specifications. Manufacturing for almost half a century high quality commercial refrigerators. Write for catalog. GENERAL REFRIGERATOR & STORE FIXTURE CO., 519-21-23 Bainbridge St., Philadelphia, Pa.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

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CONDENSING UNITS
Precision built for efficient operation.
GALE PRODUCTS
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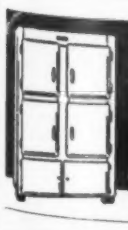
AIR-MAZE
Permanent Air-Filter Panels
AIR MAZE CORP. CLEVELAND, OHIO


COMMERCIAL REFRIGERATORS
World's most complete line of commercial cabinets — 13 to 84 cu. ft. capacity.
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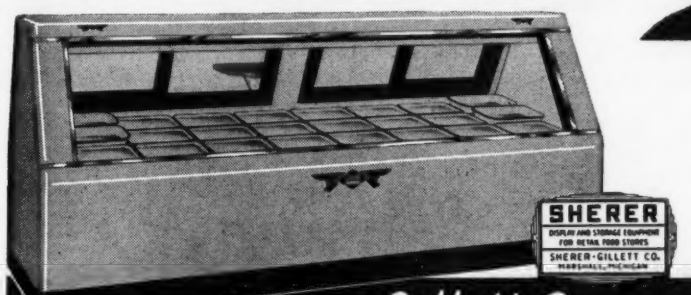
CHARGED DAVISON'S SILICA GEL WITH
Specify DRYERS THAT BEAR THIS LABEL
Ask your Jobber

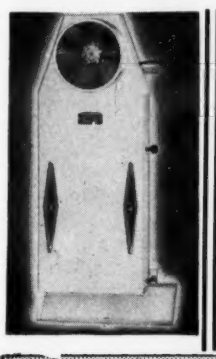
YES SIR! THIS Sherer LINE IS A PROFIT MAKER
I'm satisfied with it in every respect!

"I changed over to the Sherer line a year ago and have never regretted it for one minute," says one Sherer producer. You, too, can make sure of your share of 1941's extra business by selling Sherer's complete line of display and storage refrigerators, backed by closely-knit factory cooperation.



Write today for complete franchise details concerning the Sherer line.

Sherer-Gillett Co. MARSHALL, MICH.



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"HIGH BOY" WALL HUMI-TEMPS
A nationally accepted unit designed for Walk-in Coolers and Reach-in Refrigerators. Maintains temperature and humidity within close limits. See your jobber now or write direct.
LARKIN COILS, INC.
519 Memorial Dr., S.E., Atlanta
Originators of The Cross Fin Coil

STANGARD Prime Surface Cold plates
FOR MAXIMUM EFFICIENT REFRIGERATION
FOR Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.
Write us today for complete information and catalogue.
Specialists in the Manufacture of all types of COLD PLATES
Representatives: A few select territories are still open. Write us regarding our unusual proposition.
Stangard-Dickerson Corp., 46-76 Oliver St., Newark, N. J.

Air Conditioning AND REFRIGERATION SUPPLIES AND EQUIPMENT
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'Booklet' Drive To Interest Gov't. In Lockers Proposed at Meeting

(Concluded from Page 1, Column 1)

and the traveling expenses necessary to push both the priority and the locker stamp programs through to completion.

This plan consists of selling in quantities to locker plant operators and manufacturers a booklet especially designed to hammer home to government officials the fact that continuance and expansion of the locker industry is essential to the health, welfare, and defense of the nation. The booklet is priced at $1 per copy.

Under the plan, locker operators buying some of these booklet presentations would send them to their senators and representatives at Washington and to the heads of such federal agencies as Farm Extension Service, Farm Security Administration, Surplus Marketing Administration, Soil Conservation Service, Agricultural Adjustment Administration, and Senate and House Agricultural Committees.

THEORY OF PROGRAM

Manufacturers, buying this booklet in even larger quantities, would in turn redistribute them for this same purpose, as well as sending some of them direct.

Theory behind this program is that when these booklets start piling up on the desks of the various administrators to whom they are sent that the sheer momentum of the program will bring the locker industry the consideration and treatment which it desires, particularly in regard to priorities and the locker stamp bill.

Attendance at the convention was definitely disappointing. Fewer operators gathered at this third annual national meeting than attended either of the previous two, according to Secretary Albert Guggedahl. The number of exhibitors also was less than at last year's meeting.

First counts revealed a total registered attendance of 438 persons from 28 states and the District of Columbia. Iowa, Nebraska, Illinois, Missouri, and Kansas, in that order, were the best represented states.

Some of the more distant states represented were New York, Texas, California, Maryland, Oregon, Alabama, New Jersey, and Pennsylvania.

Twenty-eight firms maintained exhibit spaces at the convention.

PRESIDENT RE-ELECTED

Unanimous approval of the suggestions of the nominating committee resulted in the re-election of Ed G. Squire of Shenandoah, Iowa as president of the national association for the coming year.

Other new officers, elected in the same manner, are: Horace L. Titus, Sterling, Colo., first vice president; Alvin D. Hatten, Independence, Mo., second vice president; George O. Schlageter, Streator, Ill., third vice president; and N. E. Vandyne, Parsons, Kan., treasurer.

Mr. Titus served as third vice president last year. Messrs. Hatten, Schlageter, and Vandyne all served as members of the advisory board of directors.

New officers and directors of the association will hold a meeting sometime during the next month to formulate plans and policies for the coming year, President Squire stated.

No definite decision was reached by the new executive board as to the site of next year's convention, but Memphis, Tenn. was recommended by the exhibitors' committee.

Other cities from which invitations for the 1942 meeting were received included: Minneapolis; Houston, Tex.; Omaha, Neb.; Des Moines, Iowa; and Chicago.

W. W. Wilson, president of Master Refrigerated Locker Systems, Inc., was elected by the exhibitors as chairman of their committee for the 1942 convention.

PROGRAMS BROADCAST

Two radio broadcasts added a touch of novelty and interest to the meeting.

One, a panel discussion on locker plant operation, was broadcast from the studios of Omaha's radio station WOW on the first day of the convention.

The other broadcast originated at the Henry Field supermarket and locker plant in Omaha but was broadcast over station KFNF, Shenandoah, Iowa. Convention-goers wishing to attend this broadcast and inspect the new locker plant were provided with transportation. The program consisted of a series of brief interviews, of the man-on-the-street type, with various locker operators attending the broadcast.

Another innovation at this convention was a separate group meeting of attending faculty members of colleges and universities, extension people, and representatives of such government agencies as the Department of Agriculture and the Farm Credit Administration.

Besides reporting on the locker plant and frozen food work being carried on by their various schools and departments, the educators agreed that their position should be that of fostering a cause (i.e. home raised food and improved nutrition), not an industry (i.e. the locker business).

Summed up by David L. Mackintosh of Kansas State College, who presided over the session, this expression took the form of a resolution to the effect that: the collective aim of the various educational groups is to aid in developing a program of home grown food and improved nutrition, especially among the rural population; that locker plants constitute a splendid medium for this work, both by helping farmers more fully to utilize their own food supplies and more advantageously market their surpluses; and that it should be suggested to the assembled locker operators that they work in closest cooperation with the various educational institutions in their respective localities.

LOOK TO SOUTH AMERICA

Possibilities of the expansion of the locker industry to South and Central America were discussed by Dr. Jaroslav Novak, special guest speaker.

Dr. Novak, who for nine years was Czechoslovak consul general at New York City, and for two years was Czechoslovak minister to Venezuela, Panama, and Costa Rica, expressed the opinion that such a move would raise both the economic and social position of many of these countries, and prove an important link in the ever-strengthening chain of "Good Neighbor" relations.

"Wholesale agricultural and industrial development in much of this territory would be impossible without the existence of adequate refrigeration facilities," Dr. Novak declared. "In the struggle against Nature, refrigeration has given the man living in tropical zones an independence equal to that given by fire to the man in colder climes."

During the audience panel discussion, it developed that the locker industry is beginning to feel its first real labor pains.

C. G. Holme, Jr. of Sebastopol, Calif. told of his difficulties with the butchers' union of the C.I.O. The union local, it seemed, even went so far as to try to put into effect a regulation that only a union employe, never a patron, could remove produce from any of the plant's lockers.

Other operators also told of encountering difficulties with unions in their locality, some even reporting that their plants had been picketed.

'Informal' Interpretations To Serve As Refrigeration Tax Guide

(Concluded from Page 1, Column 4)

system, and probably not considered taxable when sold separately.

6. While the law specifies "expansion units" as being taxable, this is not thought to mean expansion valves. In a previous tax law which included expansion units, expansion valves were exempted in a subsequent interpretation.

7. The tax will be calculated on an "f.o.b. factory" basis.

8. Repair parts and supplies, according to informal opinion, are probably not taxable. However, warning is made against an attempted evasion of the law through attempts to assemble parts bought separately into a complete system. No deduction is expected to be made from the taxable cost of system for the refrigerant included as the original charge, but the refrigerant bought later to replenish a lost charge would not seem to be taxable.

9. Component parts used in or suitable for use as part of or with a refrigeration system or refrigerating equipment, other than those specified in the law, are not taxable. Some specific examples given in the "informal interpretations" — tubing, valves and fittings, and ductwork.

10. Exempt from the tax are sales to the government or any subdivision thereof (including states), but a proper exemption certificate must be obtained from the buyer. Also exempt are sales to U. S. territories and possessions, and sales for export to foreign countries. The vendor must prove they are really export sales, however.

11. It is thought advisable to have the manufacturer show the amount of the tax on his invoices.

12. **Dealers and distributors must not exaggerate or inflate the amount of the tax when they show it in their selling price. To do so is a violation of the U. S. criminal code.** If the tax is shown separately in the price or in a billing, the amount stated must not exceed the exact amount of the tax.

Please remember that the above are "informal interpretations" and may or may not stand when the official interpretations are made.

Crosley Claims Largest U. S. Housing Contract

SAN ANTONIO, Tex.—More than 2,000 Crosley "Shelvador" refrigerators are being installed in the Victoria, Alazan, Apache, Wheatley, and Lincoln Heights federal housing projects here.

This order constitutes what is believed to be the largest single government contract for refrigerators.

Several hundred of the units are already in place, and the balance of the delivery will continue into January and February of 1942, according to H. L. Roper, president of Alamo Distributing Co., Inc., Crosley distributor here.

3-Million Mark In Household Volume Passed In August

DETROIT—The first 3,000,000-unit year in the history of the household refrigerator industry became an accomplished fact during August, when world shipments of approximately 280,000 units sent the eight-month total for 1941 to approximately 3,217,000 units, according to estimates by AIR CONDITIONING & REFRIGERATION NEWS.

August shipments compared with an estimated 213,000 units during the same month last year, and this year's eight-month mark with a total of 2,391,000 in the corresponding period of 1940.

World shipments by 11 companies reporting to National Electrical Manufacturers Association totaled 266,011 units during August, bringing the eight-month Nema mark to 2,994,108 units. Shipments by Nema firms were 202,209 in August of last year, and the total for the eight months was 2,273,369. Of this year's shipments, 251,621 were to the United States and possessions.

August's industry shipments of 280,000 units were a drop of 75,000 from the 355,000 estimated for July, the preceding month, slightly more than 25%. This compares with a drop of about 20% between July and August shipments in 1940, with the extra decline undoubtedly a result of the restrictions on refrigerator production put in effect Aug. 1.

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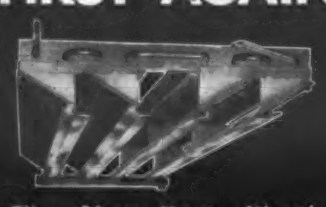

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